

Pyrologia Mimica,
OR, AN
ANSWER
TO
HYDROLOGIA CHYMICA
of WILLIAM SYMPSON
Phylo-Chymico-Medicus;
In DEFENCE of
SCARBROUGH-SPAW.

WHEREIN
The Five Mineral Principles of the said *Spaw*
are defended against all his Objections by plain Reason and Experiments, and further confirmed by a Discovery of Mr. S. his frequent Contradictions and manifest Recantation.

ALSO
A Vindication of the Rational Method and Practice of Physick called *Galenical*, and a Reconciliation betwixt that and the *Chymical*.

Likewise a further Discourse about the
ORIGINAL of SPRINGS.

By ROBERT WITTIE
Doctor in Physick.

L O N D O N;
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1376:16

To the Right Honourable
JAMES Earl of *Suffolk*,
and *JOHN* Lord *Roos*
Son and Heir to the Earl
of *Rutland*.

My Lords,

BEing necessarily engaged
to appear again in Pub-
lick, in Vindication of
what I formerly writ upon
the Subject of *Scarbrough-Spaw*, and
the asserting of the Mineral Princi-
ples thereof, it reminds me of my
Obligations to *Your Lordships*, to
whom of right belongs from me what
ever Product that Spring affords.
What there I had said about the
Principles of that Spring, I have here
further made good by convincing
Arguments, answering all Objections
to the contrary. *My Lords*, Here is
A 2 also

Epistle Dedicatory.

also a *Defence* of the *Rational Method* and *Practice of Physick*, which a fierce Chymical Pretender has designed to blast, to which I have added my Endeavors of a *Reconciliation* between the *Galenists* and *Chymists*, in Reference to some *Differences* started up among them, through the perverseness of some *late Upstarts*. The Honourable Testimony I have heard *Both Your Lordships* give of your sincere Affection to *Your respective Physicians*, and the *Art of Physick*, doth justly challenge this Acknowledgement, and renders *Your Lordships* most fit *Patrons* of *This*, that designs the *Peace of the Faculty*. Be pleased to accept this as a *Symbole* of *Thanks* and *Service* due to *Both*, from

Tork,
May 25.
1669.

My Lords,

Your Lordships
Most humble Servant

R. Wittie.



To the Judicious and Impartial

READER.



When I published my Book of
Scarborough-Spaw, I
thought it was the most ac-
ceptable service I could do
for my Countrey, since I found it
even in Twenty years experience to be
eminently successful in the Cure of ve-
ry many Diseases, which had resist-
ed all Rational Methods, that had
been used either by my self, or others
of my Faculty. In that Book I treat
of the Constituent Principles of that
Water, viz. Iron, Vitriol, Alome,
Nitre, and Salt. And then for Me-
thods sake, I discourse concerning the

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Original Cause of every sort of Water, as Sea, Rain, Snow, Lake, Pond, Fenne, Spring, and River Water, and more at large I handle the Controversie among Philosophers both Ancient and Modern about the Original of Springs. I then proceed to treat of Mineral Waters, with the property of the Minerals which that Spring has imbibed; and conclude with a Description of the Nature and Vertues of that Spaw, and of the Cures done by the Water; which I did recite upon my own Reputation in my First Edition. And that being sold, the Report of the Vertues of the Spaw, I thought fit to confirm in the Second Impression by the Attestation of several Persons of Honour and Quality yet living, on whom the like Cures were done in their several Cases, who for Publique Good, did willingly allow the mention of their Names:

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Names : not doubting but it would find acceptance among Ingenuous Persons ; and indeed so it did, for I have had hearty thanks from many of the best Rank , both Philosophers, Physicians, and Others.

But of late I have met with a Check in a Book called Hydrologia Chymica set forth by William Simpson, Philo-Chymico-Medicus ; which I rather think merits the Title of PYROLOGIA MIMICA, since his main business is to treat of Chymical Experiments prepared out of Fire , which he borrows from Others ; besides that he spits Fire in every Page. He pretends to deny the said Principles of the Spring (though he asserts the Vertues thereof) and engages in the Dispute about the Original of Springs. All which if he had managed like a Scholar by dint of Argument , for the discovery of Truth in

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each particular, it might have been for his Credit, and should never have been disgusted by me. But instead of that He sets his Wits on the Rack on every account to bespatter me with rude and uncivil Language, even without any Ground or Reason, wherein I willingly submit to the Judgement of the Reader.

But who am I that I may not bear it, when the most Famous Universities in the World, and all the Learned Men in Europe, do not escape a severe Censure concerning their Studies, from the malevolent Pen of this bare Batchelor of Arts: and all the Learned Physicians in the World, and their Rational Method of Physick, must be undervalued as trivial and successless, meerly to make way for a few Chymical Medicines of his own.

I confess I have been advised by several Learned Gentlemen of my
Friends,

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*Friends, to let him alone, and not to honour him with an Answer; who urged to me that Example of Scaliger, who being told that a mean Fellow had writ saucily against him, answered, Relatum est mihi, Scarabæum quendam contra me scribere, cui respondere nec dignitatis est nec Otii. I have been told (said he) that a certain Scarabee has writ against me, to whom it doth neither become me, nor have I leisure to give Answer. But I could not be so satisfied, to let the young man go on in such a Carier without a Curb, since I have writ nothing but what I am assured to be true, and am well able to defend against all his Objections. Although I confess I am not at very good leasure to do it, in regard of my other Occasions; especially since I am hereby interrupted in my Latine Copy upon the Subject of the Spaw, which I thought should have
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To the Reader.

seen the light this year. Nor do I know of any one else, that is so much concerned to undertake it.

I therefore took his Book into Consideration, concerning which I must say as once Julian did upon a better thing, Ἀρίστην, ἔγωγε, Κατήνην, in which sunt bona, sunt quædam mediocria, sunt mala plura. Or as Homer φάρμακα πολλὰ μὲν ἐσθλὰ, μεμυγμένα, πολλὰ τε λυγρὰ. Besides his words, which are his own, stufd with bombaste, I see nothing in it, but what is vulgar. Those indeed are such and so affected, wherein I find him constantly incircled, as if like Faustus he went about to conjure up Mephistophiles. Or as if the Chymical Spirits were like the Infernal, that they will not be raised without hard and big words. His Experiments which are not a few, are pilaged out of Kircher, Helmont, Zwelfer, Sennertus, Mr. Boyle, Sen-

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Sendivogius, and Dr. French his Book of Knaresbrough Spaw, and several others, though he is rarely so candid as to own them. The Inferences which thence he deduces are most what upon mistaken grounds, drawing general Conclusions from particular Premises. His Philosophy is not at all to be liked, being altogether novel and precarious. His Candor and Ingenuity less; Defamation being the main Topick of all his Discourses. I wish for (his own sake) his Divinity may be better; for I have seldom seen any one so Sceptical in Reason, but the same has been Heterodox, if not Heretical in Religion.

My Lord Cook says there are two things that marres many a Lawyer, to wit Præpostera Lectio & præpropæra Praxis. Give me leave to apply it to Physicians, and particularly to this my Antagonist. It does appear he
fell

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fell among ill Books, and read unwholsome Authors in Physick, or else he began at the wrong end; reading the Therapeutick part, before he understood Physiology and Pathology; otherwise his parts well laid would have rendred him far more useful in his Country, than now he is likely to be; as for the later; viz. Præpropera Praxis, he is at leisure enough for that, save only in his Laboratory. I confess. I never saw any man so big with himself, that like the Frog in the Fable he is ready to burst, either through Pride or Envy; if I could now help with a piece of good Midwifery, and bring him to a safe Delivery, he would have great cause to thank me.

*But as to his Book more expressly thus, In the beginning he stiffly denies all the Principles of the Spaw, (which I mentioned) save Alome,
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and disputes against me with Dung-hil Language, such as the Schools know not, and all ingenuos men abhor; and yet (would you think it) before he has done he yields them all to be there; viz. Iron P. 39. and P. 44. and 45. So Vitriol, P. 359. And Nitre P. 360. and 364. where he is put to a sore pinch to fumble at Expressions, on purpose to blind some capacities from discovering his Contradictions. To say no more than truth, I never met with any Author so unstable in his Writings, even to say and unsay, as this my Antagonist, which I shall point at as I pass along.

Then he goes on to tell what Diseases the Spaw cures, and what not, wherein he is altogether Mimical; being wholly confined to what I have said in my Book, or what in Reason may follow therefrom; for otherwise I am
assu-

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assured he is a mere stranger to it, almost as he that never saw it; to which yet I can adde some eminent Cures, that I have not already expressed.

He next passes on to treat of the Causes of several Diseases, which he refers to some Fault in his Five Digestions (I wonder he did not make 50.) This Notion is purely Helmonts, though he curtails his number, of which he has a peculiar Tract, called *Sextuplex Digestio alimenti humani*, P. 166. But for want of the right understanding of Anatomy Sir S. grossly mistakes, which our Modern Authors since the happy Discovery of the Circulation of the Blood, and some Vessels lately found out in the Contexture of the Parts, by some of our own ingenious Countreymen, have more intelligently proposed.

In his Discourse about the Original of Hot Springs, he determines
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the heat to proceed from a Mine of Vive Calx, which Notion he grounds upon a Relation that I made in my Book of a most Ingenuous Observation of a Noble Lord of this Kingdome, near the City Bathe, though he has not so much ingenuity as to own it, To say what I find, he is resolved to do me no right.

Where he undervalues the Rational Method of Physick, and extols his own Medicines as more Noble and Successful, I shall joyn issue with him in weighing his Arguments, and examining his Medicines which he himself has described, together with some matters of Fact, as they relate to him. Here I would not be thought as if I were an Enemy to the Chymical Way, or those that are Learned Professors thereof. I am serious I account it a singular Additament and Ornament to the Noble Art of Physick
and

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and the most useful Part of Experimental Philosophy; and such as the Old Princes in Physick would have rejoiced to have known. And I do sincerely love and honour those that imploy their Talents in a genuine preparation of wholsom Medicines, out of the Minerals and Metals; and I have not been idle altogether in those Operations my self, having sometimes had a Laboratory of my own, wherein a very Learned Gentleman of this Kingdom, and my self did imploy some time and money; and of late I have not been wanting to make several Experiments out of the Minerals of this Spaw, as I have mentioned in several places of my Book, though not with such Noyse and Cracks.

Besides in my Practice near 30 years (wherein on this sudden I can scarce think on any Disease which has
not

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not been under my Cure) I have not been wanting to use them according as I saw cause: wherein what my success has been, I chuse rather to let my Countrey report; only this I may with modesty affirm, it has been like others of my Faculty. And I must also declare that what ever my success has been, I must rather ascribe it to the Blessing of God upon a Rational Method, than Chymical Preparations.

But why any that addicte themselves to that Study, should go about to make Chymistry an Art of its own kind, or like a Viperous Brat to eat through the Bowels of its Dam, and so to cry down that wholesome Method, and those Medicines, that in the hands of Artists, have in all Ages proved successful for the good of Mankind, I see no reason in the world. And I am sure there is no cause, why

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this Man should so magnifie his own Preparations in comparison of others, as I shall with satisfaction have occasion to make out anon.

Touching his Project for an Universal Character (which a man would wonder how he should bring into this Discourse, save that he would be a Sir Positive-At-all.) He has all his hints from a very Reverend Person of this Nation, who before his Book on that Subject came out, was frequently free in discourse concerning the thing, and had given out several Essays.

As to his Discourse about the Constitutive Principles of all Concretes, which he fetches from Helmont, quarrelling at the Three Ordinary Principles of the Chymists, to wit, Sal, Sulphur, and Mercury, and the Five of others, he resolves all into Water, which certainly is a Mixt Body,

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Body, and consists of the Four Elements. And (I pray) may not that again be easily resolved into nothing, and so become an Argument to prove the Creation?

In his Appendix concerning the Original of Springs He is most dissingenuous, and shews himself to be a man that can blush at nothing; pretending to have answered all the Arguments in my Book, which I have urged for Rain and Snow Water to be the Original of Springs; when he leaps over no less than three or four whereon the stress of the Opinion does most lie, and only touches upon something that I brought in by way of Illustration, not of Proof. I am ashamed that any man that pretends so highly, should respect his Credit no more, but impose upon the Reader, who perhaps not seeing my Book, would
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be induced to give him Credit. (viz. Scarbrough Spaw Second Edition, from P. 97. to 119.) Besides that being pinched with an Argument of Demonstration, which I deduce from Dr. Heylin in his Cosmography, he calls in Question the Honour and Honesty of that Learned and Reverend Gentleman (P. 301.) In the mean time he establishes his own Opinion upon a meer naked Supposition (P. 317.) which he ought necessarily to have proved, or else his Superstruction will fall to the ground, for want of a Solid Foundation. Yet in that Discourse all he has is from Kircherus in his Mundus Subterraneus.

*Concerning his Ternary of Medicines, which next to his opposing of me, is the grand Design of his Book, there is great cause to suspect
he*

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he will fall short of his aim. Those are his Scorbutick Pills for Purg-
ing, his Cordial Elixir, and his
Diaphoretick. Can any Rational
Man think that all Diseases are so
easily cured? I am afraid these Pills
may at length prove like his Lunar
Pills, which he mentions (P. 120.)
sometimes as highly extolled by him,
and used as his Catholicon, which
upon trial some poor men probably
smarted for; for he declares them
unsuccessful, and advises against
the further use of them, being made
up with Aqua fortial, and other
Corrosive and Poysonous Medi-
cines.

As to the Elixir Proprietatis,
doubtless its a good Medicine being
duly used. Now there are several
wayes of preparing it mentioned by
Paracellus, Helmont, Crolius,
Amynsicht, and others, all of them

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magnifying their own Preparations. But it is a Medicine very hot, whose Vehicle is the Tartarised Spirit of Wine, and so not likely to sute as a Cordial in all Diseases; notwithstanding there are some that use it, till they are even come into a Proverb among the Vulgar.

Touching his Diaphoretick, it is to be doubted, he makes it of the Corrosive Oyl of Antimony mentioned (P. 180.) which he tells (P. 188.) is a more desperate poison than Mercury Sublimate it self, which all men know will corrode Iron. I suspect we shall shortly see his Bills upon the Posts of the City, after the manner of Quacks, proclaiming this Ternary, as sometimes he did with his Amulet for the Plague, unless he suspect I have marred his Market,

And

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And lastly he concludes with an Epilogue, wherein he most gallantly recants all that he had said in his Hydrologia, concerning the Principles of the Spaw. For whereas he denied Vitriol to be there, and abused me for asserting it, he confesses upon further trial, that there it is in its Body, to wit Terra Vitrioli (P. 359.) then he confesses Nitre (P. 360.) yea and (P. 364.) he yields it to be of all the Minerals the most predominant, even as I had affirmed in my Book (P. 13.) And he is forced to come off with a woful excuse at the lower end of that (P. 364.) That he only meant that its not the Nitre of the Shops, which is vulgarly sold. To say the truth, he was forced to make this Recantation, as I shall make out afterwards.

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By this time I suppose the Candid and Judicious Reader discerns the folly of the young man, whose wrath and envy against me, have excited him to abuse the World with an ill premeditated piece of work. *Inspientis est dicere non putaram.* But what satisfaction have I now for the injuries he has offered me, in his causeless endeavour to blast my Reputation; I most willingly submit all to the Ingenuity of the Judicious and Impartial Reader, being ready to receive him when he shall make his Acknowledgment.

And now I suppose I might very well spare my self any further labour, but I am not so minded, let me beg thy patience a little (Gentle Reader) till I lay down the grounds of this mans quarrel against me, and enlarge my Epistle with a few Notes upon his, and then Ile proceed to his Book.

About

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About four or five years ago at the most, Sir Simpson began to set up for himself in the Practice of Physick; and about the same time another also, whom he glances at somewhere in his Book. These had a Project to overturn the Rational Practice of Physick in this City and County of York, and reduce all to the Chymical Way. In order to which, in all Companies, and more especially at the Coffee-Houses, they were constantly declaiming against the Medicines of the Shops, which are prepared according to the Dispensatory established by the Law of the Land; and magnifying their own Medicines, by which they pretended to be able to do wonders. (How far this took with some of our Faculty, I shall not now mention.) But there were not wanting others of my Learned Brethren, who together

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gether with my self, did judge it our duty Rem populi tractare, and to stand up in defence both of the lives of our Friends, and the Rational Method, being yet no Enemies to the Chymical Way, and such Medicines as therein we knew to be useful and safe.

Especially I my self did more frequently and publickly appear among the Ingenious Gentlemen, that meet at the Coffee-Houses to countermine their design, and did speed accordingly; on which account they give out, that I am a Discourager of Ingenuity, which yet those that know me will testifie to be false. They to requite me, call in further Assistance, as I shall by and by make out; and combined to fall upon me in reference to my Book of the Spaw, where though they wanted just matter of Exception, as I shall (no doubt) clearly

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clearly evince, yet they designed like Hannibal upon the Alps, aut invenire viam, aut facere; ever and anon jerking at my words, and wrestling my sense, pretending to understand the Water bath in its Principles and Vertues; whereas in truth they could, nor have said any more, than I had done in more compendious and intelligible words. And to make the Book more taking among the Vulgar, they have Huffs it with Experiments fetcht from all Modern Writers, that have treated of Experimental Philosophy (very few of them being their own) which they have confusedly drawn into this Farrago, as Cacus did Hercules his Oxen inverted or reversed, to amuse the Reader, and on purpose to palliate their Theft. In the mean time they were all of them bolting out several Expressions against me
and

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and my Book this year and an half, which now are come to light, through my sides aiming to wound the Rational Practice of Physick, which even now they think they have effected, in this City; or at least they were lately in hope they had done it.

Another difference there happened betwixt Sir Simpson and my self. One Robert Beford a very ingenious Lock-Smith about 3 or 4 years ago, was my Patient in a Droplie, which I had managed about 10 dayes, not without great hopes of a Cure: In which Disease (I thank God) I have often performed many good Cures. On the sudden he told me, he would take no more Physick, saying, he was weak, and Physick would kill him; I told him he must assuredly die of his Disease, if there he left off. At length I understood that Sir Simpson was called to him (by a good wife) who had put this
whim-

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whimsie in his head, and promised a Cure within a Fortnight, by his Chymical Medicines, which he said were not Physick. But the Patient grew every day worse, I having a respect for such an ingenious Workman, sent to Mr. Simpson (whom I had not seen before) desiring him to meet me at the Apothecaries Shop, and demanded wherefore he had disparaged my Medicines, having not seen my Bills, which were extant in the Apothecaries Shop. He said he did not disparage my Medicines but my Method, to wit, the Galenical Way, in which it was not possible to cure a Dropsie. I told him I had cured many a Dropsie in that Method, before he knew what was Latine for the Word. And withal I told him, that if ever he intended to take any Degree in Physick in the University of Cambridge, I
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expected he should visit me ; and then he should give an account of that unjust Calumniation. I also told him that the man would assuredly die , which came to pass within 3 weeks after his first Call ; complaining of a most horrible heat and corrosion in his Belly , from the heat of his Medicines (as the man himself did conceive) especially from some Pills , that he gave him , bewailing the time that he had left me.

Some Reflections on Sir Simpson's Epistle.

The Design of this Author as he expresses in this Epistle , is to examine the Principles of Scarbrough Spaw , whether they be such as I have described them in my Book , which if it had been really for the
dis-

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discovery of Truth, he would have modestly carried on his Work without Personal Reflexions, which are exceedingly ill becoming any man, especially one so young, who like a Cockerell but newly hatched out of his Shell, begins to crow fiercely. It is not Victory that I value, but Truth that I serve, which doth prompt me to stop his Carier.

I shall therefore take what liberty he has given me, to examine his Book, especially in those things that relate to my self, and the common Cause of Physick in the Controversie, as it is by him stated betwixt the Galenists and the Chymists, not troubling my self with his other impertinent digressions (further than what I have already glanced at) because I study brevity, and would neither trifle away my own time, nor the kind Readers with matters

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ters on the by. What I see amiss in him, I shall endeavour to prevent in my self, and will therefore use plain and intelligible Language, being desirous to be understood by all that know but their own Mother Tongue. My Method shall be that of his, for I'll trace him in his steps.

He says, If any Writings of his shall be found as equally naked and fenceless as mine are, he will be content with the same measure he has meted to me. To which I reply, my Book was sent abroad in a plain and modest Dress, according to the commendable Fashion of the Times for things of that Nature; without gawdry, being guarded with Reason and Verity, which I expected would have been its sufficient security. If its fortune in its passage was like that of
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the Samaritane to heal and clothe it, though perhaps some body else may pay the Reckoning in the Conclusion. As for his Writings, they appear (methink) like the Crow that Horace tells of in his Epistles, that was gawdily attired with the Feathers of other Birds, which became a Laughing Stock, when every Bird came for its own. Movit Cornicula risum, Furtivis nudata coloribus. Its probable I may let him see he is at my mercy, and not so well fenced as he imagines.

He brags much of the Chymical Way gaining ground in the World, and that at length it will worm out the Galenical Method. I am glad it is a Method; I suspect he cannot so call the Chymical Practice. Nothing does better conduce to duration than Method and Order. This Galenical Method has stood these

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1500 years, ever since the Reign of the Emperour Antoninus the Philosopher; whom Galen had the Honour to serve as his Physician; and I see no Reason why it may not hold out 1500 years more; since it does not grow to decay through Age, but take deeper Root. Let no man startle at this his Prognostick, since it is not founded upon solid Indications. I am certain it cannot be from any hints he can take from his own growth of Practice or Success. His project is now like to be more frustrated as to the former, by being more known; and for the latter I appeal to the Inhabitants of this City of York.

As to his own Chymical Authors, he says, there are not many that he values, and quarrels at such of them, as extoll their petit preparations for Panacea's. The truth

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is he would have all men modest but himself. He will not allow Amyntic, Crollius, Beguinus, or Libavius to cry up their Receipts, for fear his Market be marred when he comes by and by to magnifie his Ternary. He abhors that fault in others, of which himself has more guilt. May not we have more reason to suspect his Ternary he magnifies so much, for the Cure of all Diseases, than he has those Authors, whose eminent learning and labours made out in their Writings, has gained them a good Reputation in the World, especially when we come to discern by and by the property of the matter out of which they are made. To say the truth, he likes none of the Chymists well, but Paracellus, and Helmont, and Zwelfer, and Hnnfelt, whom he accounts most able to judge of them all. He commends Helmont

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for pulling down the Galenical Theory, *and says*, he rears up a better. *This is but in his judgement which is not very great.*

Scilicet ante pilos rerum prudentia
velox.

*Methinks he might have staid till his beard had been grown, before he had been so definitive. He says, Helmonts best Arcana's are but darkly set down, and commends him for obscuring his Expressions. How then does he know that he understands him aright? Si non vult intelligi debet negligi. The Galenists in their Writings are far more candid, using such perspicuity of Expressions, as if they would make the things they treat of to speak out themselves; and certainly they that have a true value of the lives of
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men, will speak plainly out to prevent all mistakes,

He most uncivilly throws dirt in the Faces of those Learned Gentlemen my Friends, that have made Verses before my Book, calling them Pedantick Rapsodists, &c.. Is any thing more ordinary than Verses upon graver Subjects than that is? Have not some of his own Authors five times as many Verses as there are? Might it not have been sufficient that this young man had a design to wreak his wrath upon me, but he must let flie at those Worthy Gentlemen my Friends, who are all of them of such Eminent Learning and Worth, that W. S. is not worthy to carry their Books; who out of their Real Respects to me, and the satisfaction they took in the faithfulness of my Design, in acquainting the Kingdome with the Usefulness of the
Spaw,

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Spaw^a were pleased to humble themselves to make a few Verses, which yet had never been printed, if it had not been for the importunity of the Bookseller. Poets in all Ages have been allowed the liberty of their Fancy. Pictoribus atque Poetis, Quidlibet audendi semper, &c. --- I say, would neither the Honour of some, nor the Learning and Gravity of them all, put a Curb upon his petulant Spirit, but he must bespatter that innocent Design of theirs? I can hardly contain from Passion on those my Honoured Friends behalf. I shall only say, I am sorry they had no better fortune than that of the Nightingale to be judged by an A ---

He concludes his Epistle with telling what pleasure he had in writing his Book, supposing with himself it will be so approved of, that it may come out in a Second Impression.

He

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He wants no confidence indeed, while some Learned Men are of another Opinion. As for his writing, I believe it was the greatest part of his Task, for he wanted not other help (as I hinted before) to fetch in the Farrago of Experiments out of Variety of Authors, but himself was best fitted to be the Amanuensis. Moreover the Independency of his Subjects, and the Chinks and Flaws that are in the Furniture of the Discourse, together with the plain Contradictions that do frequently occur, wherein he says and unsays, do clearly evince it to have been a Combination.

ERRATA.

PAg. 2. line 20. read natalls, p. 6. l. 1. v. acua-
ated, p. 6. l. 22. v. Gustatilibus, p. 13. l. 12.
v. Minera, *ibid.* l. 24. v. 364, p. 14. l. 21. v. fossile,
p. 18. l. 25 v. alumini, p. 22. l. 6. v. effluuium, p. 23.
l. 8 v. Hippocrates, p. 24. l. 4. v. into, p. 27. l. 7. v. qua,
ibid. l. 10. v. Meteor, p. 29 l. 19. v. componitur, *ibid.*
l. 24. v. Iron, p. 31. l. 10. v. Chalybeat, *ibid.* l. 26. v.
then, p. 36. l. 25. v. c. x. p. 38. l. 1. v. lib. sem. p. 39. l. 7.
v. Vitrioli, p. 40. l. 1. v. Chalybeat, p. 42. l. 5. for in
v. vi, *ibid.* l. 7. v. Diaphanam, p. 43. l. 6. v. matter. p.
59. l. 3. v. wherewith I pinch, *ibid.* l. 11. v. or that,
p. 62. l. 3. v. correct these his, p. 64. l. 4. v. horum, p.
66 l. 7. v. illa, *ibid.* l. 9. v. in Sale, p. 67. l. ult. v. lami-
nae ferreae, p. 73. l. 7. v. there, p. 74. l. 17. v. necet, *ibid.*
l. 18. v. edulia, p. 82. l. 23. v. is meant, p. 84. l. 21. v.
roche, p. 99. l. 2. v. demonstrate. p. 123. l. 2c. v. and
heat, p. 124. l. 13. for 59. v. 56.

*Thus far the Errata is collected, and
what faults have since pass'd the Press,
(the Author being at great distance) the
Reader is desired to amend.*



Pyrologia Mimica,

O R,

An Answer to a Book intituled *Hydrologia Chymica*, writ by *William Simpson Philo-chymico-medicus*.

I Shall begin with a passage out of this Book of Mr. Simpson's in his own words (Page 214.) Few there are (says he) who busie themselves to write, but they have some Novelty either in History, Theory, or Practice, to present the World with; yet they commonly do so wind-draw and spin it out at length, with so many circumstantial, and often impertinent Notions, that they fill up a Volume, with

B

that

that that they might have comprised in half a dozen Pages: All the rest are meer *Flourishes* and *Appendices*, which being tedious, few men will cumber their heads withal; and therefore in effect they signifie nothing. Certainly nothing can be said in *Few* so apposite, to discover the design of this mans writing this Book, and his manner of doing it. Here we have a *Hodge-potch* of Novelty in the *Theory* and *Practice* of Physick, wire-drawn and spun out at length, with a company of impertinent Notions, that signifie nothing but to fill up the Volume and raise a great dust. The rest are meer *Flourishes* and such a sort of *Appendices* and *Fragments*, as I never read the like; which indeed do signifie nothing, but to spend pretious time that might be far better employed. I shall here apply that passage of *Natales Comes*, which he has concerning *Zenophanes* his introducing a new Philosophical Notion, viz. *Nonnulli ne nil scisse videantur, aliqua nova monstra in Philosophiam introducunt, ut alicujus rei Inventores fuisse appareant.* Some there are who lest they should seem to know little, will bring

bring in monstrous absurdities in Philosophy, that afterwards they may be famed for the inventing of. somewhat.

The Author (*Page 1.*) tells that he has seen my Book of *Scarborough Spaw*, wherein I mention *Five Principles* to be in that Water, to wit, *Iron, Vitriol, Alome, Nitre, and Salt*: And he declares it is his Design to examine whether I have made a true Report or no; and he endeavours to make the World believe I have not. Truly then I must say it is through mistake, not willfully done. It had been both more *Christian* and *Civil* in Mr. S. if he had suspected I was in an Error, to have come to me (since we are Neighbors) and to have discours'd with me about it, and so convinc'd me of my mistake, or else received satisfaction from me. And indeed I think it had been but reasonable for him to have laid his Foundation in a private Discourse, before he had appeared so severely in Publick against me. But Truth seeks no shade; I am very well content to be brought to the Test, although I do neither think him fit to be my Judge, nor

value him as a Witness, nor fear him as an Enemy. *Nit magis Certum, quam quod ex dubio Certum.*

Of Vitriol.

He begins first to examine *Vitriol*. Here let him know that *Scarborough Vitriol* will not *blush*, being brought to the Trial it will be found *clear*. Let the Reader take notice that in this Dispute about the Minerals, I intend to engage him *at his own weapon*, to wit, the *Chymical Writers*, whom I find to abound in my Sense all along.

He says (Page 2.) The Doctor might have done well to have distinguished, whether he meant it *Vitriol of Iron or Copper*. First, I wonder Mr. S. does not take care to distinguish aright, as if there were no Sorts of *Vitriol* but these; when as *Fallopian* (*De Therap. Aq. cap. 11.*) tells him that all Sorts of Metals have their *Vitriols*, and all Chymical Authors agree in it. Especially there are three Sorts eminently so called, to wit, *Vitriol of Iron, of Copper, and white Vitriol*, all which he himself reckons up (P. 5.) To me (*says he*) all natural *Vitriols* seems to be reducible to Three, viz. to that of *Iron, Copper, and*
Vitri-

Vitriolum album. Why then does he enquire which of the two I meant, since possibly I might mean the third, or some other? Really hard is an ill beginning. *Thus are in Possibilibus malum omnia*. To stumble at the Threshold is a sign of ill luck. Did not Mr. S. say (P. 1.) he had seen my Book? I wonder then how he could over-look what I say (P. 10.) since here is the *Corda Controversie*, the state of this quarrel turns upon this hinge. My words are these, *I take it to be the Iron Mineral with a Touch of the Vitriol; Or if you please Ferrum Vitriolatum, or Vitriolum Ferrugineum.*

Here I desire the Reader to take notice, that he does frequently leave out my words, or matter, wherein the main scope of my business consists; on purpose to make himself Elbow-room to abuse me. Although I intend not hereby, as if I meant this Vitriol in the Span to be made out of Iron; for what have we to do with *falitious* Vitriol? But this is a *natural* Vitriol generated in the Veins of the Earth, through which the Spring runs, which has by its Acidity or Blunne

Salt, actuated the Waters; which thereby is enabled to corrode a Vein of Iron, which is there also; and likewise some other Minerals, of which more anon. Now this Water thus impregnated with a *Vitrioline Odour or Vapour*, since it has no Emetick or Vomiting Quality joyned with it, I account it to be of the Nature of that which is made out of Iron (not of Copper) and therefore I called it *Kristiolum Ferrugineum*. But I do affirm, that common Spring-Water it self, is a *Menstruum* proper enough to take in any of the Minerals we are treating of, and will not fail to do it if they lie in its way; although if it meet with any Acid Salt, as this is of *Vitriol*, it will do it the more freely. And this agrees with that which *Paracelsus* himself has said, provided the Minerals or Metals be not come to Maturity (*Lib. 3. de Natur. Aquar. cap. de Aq. Gustabilibus.*) Yea and Mr. S. himself confesses it (*P. 59.*) Number 10, 11, and 12. Dr. *Jordane* asserts the same concerning Simple Waters, that by reason of their tenuity they may imbibe either Spirit, or Juice, or Tinctures, from Metals

Metals before their Consolidation. (*Nat. Baths cap. 14.*) Yea and Kircherus, who in his *Mundus Subterraneus* treats at large of this Subject, accounts Simple Spring Water a *Menstruum* fit enough to imbibe a Mineral or Metal; for he mentions not any *Primum Ens* or other Mineral Acidity.

I say by its Esurine Salt it more freely corrodes the *Iron*, and carries it *in gremio* out with it, which is the more easily done, because the Iron is not here a perfect Solid Metal, but *in solutis principis*, and in some tendency to it; being yet of the same nature with Iron: And this Vitriol is not so properly said to be made by an Esurine Salt, as to have an Esurine Salt or Spirit in it self. And this does agree with the general Suffrage of all Learned Writers, as well *Chymists* as others; as *Libavius* in his *Syntag.* *Geber*, *Casalpini*, *Dr. Jordan*; and not only Vitriol, but Nitre also, they say dissolved in Water will enable it to corrode Metals; and to this also consents *Fallopini* (*cap. 7. de Thermal Aq.*)

This being premised, that Supposition of Vitriol of Copper to be dissolved in the Water, is not to be supposed, and what follows thereon is altogether impertinent.

However (B. 3.) he says, *This being granted in FAVOUR of his Mineral Ingredients or Principles, &c. Iron will be found impertinent and insignificant as to the body of it.* Sir, Keep your Favours for others.

Timeo Danaos etiam dona ferentes.

I look for none of your Favours, nor need them, I suspect your very mercies are cruel; what I would have in this Dispute, I shall by and by force you to grant me, and have no cause to return you any thanks. But whereas he says *Iron is not here in its body.* What would Sir S. have? A Horseshoe Nalle? It is not here indeed to be found, nor will 100 Gallons of the Water afford so much Iron as to make one. But here is a palpable Powder, which when a little Gall is put into the Water, by which it turns black,

black (which Colour it takes from the Vitriol) there will settle after some hours upon the agitation of the Vessel , a *black Powder* near a Dram in a Gallon , which by powring the Water gently from it *per inclinationem* , will be found in the bottom ; which if you dry in the Sun , or over the Fire , has a Stiptick or drying taste like *Crocus Martis* , and being taken inwardly in any form whatsoever , doth tinge the Excrements with a *blackish Colour* , as all our preparations out of Iron do. Besides if this Water be carried abroad to *Tork* or *Hull* , which is 30 mile off , there will be found in the Vessel a *yellowish Sediment* , according to the quantity of Water , which being dried , has the same taste with *Crocus Martis* or prepared Steel , and surpassing it in vertue and efficacy ; and this separation or precipitation of this Metalline Substance , is furthered by Agitation in the Carriage ; especially if in Oaken Vessels : although I have also observed the same in Glasse Bottles , which were carried abroad.

But Mr. S. objects (as he thinks) strongly against these two Minerals *Iron*
and

and *Vitriol* to be there imbibed, because says he (P. 3.) *The Esurine Salt* which goes to the dissolving of *Vitriol*, of what sort soever (and he supposes *Copper*) is thereby terminated in its action; and though the *Water* of the *Spring* so impregnated, should afterwards meet with a *Vein* of *Iron*, yet it can take nothing thence, being already satiated, and having lost its sting.

Of *Ens*
Primum.

To this I reply, *The Esurine Salt* is that which (P. 5.) he calls *Ens Primum*, out of *Helmont*, which he says gives the Medicinal Vertue to *Vitriol*. I do not at all like the use of that Name *Ens Primum* in this sense, which the Old Philosophers, that wanted better light, gave to something of a higher Nature, even to *God himself*; from whom doubtless both *Vitriol*, and all Minerals, Metals, and Vegetables, have received whatever Medicinal Vertue they have in them; for it is he that created Medicine out of the Earth.

Secondly, This is *Petitio Principii*, to suppose such a thing to impregnate this *Water*, where we can without any *Hypothesis* at all, directly point at the
Water

Water it self as a proper *Menstruum*, as I have made out already; and if that will not serve, then here is the Esurine Spirit of *Vitriol*, of sufficient Efficacy, in the Judgement of Reason, to do the work we expect, and indeed find to be done; and this agrees also with what *Helmont* himself says in his fourth Paradox; where he says, *That which is volatile, viz. a Spirit whether it be Concrete or Liquid, may corrode other Mineral Bodies.* Besides the Novelty of the Notion of his *Primum Ens* gives ground of suspicion, the whole Current of Learned Authors that have written of Medicinal Waters, mentioning no such thing, whether *Chymists* or others: All accounting the Esurine Spirit or Juyce of *Vitriol*, enough to impregnate a Water with an Acidity, that shall make it to corrode other Minerals or Metals by which it passes. So as we may very well lay aside this Esurine Salt or *Primum Ens Salium*, as wholly precarious.

Entia non sunt multiplicanda nisi ex necessitate.

Again,

Again (I answer) It is both repugnant to Reason and Experience, and the Judgment of all Learned Writers; who have treated of these Matters. What should hinder but Salts of several kinds will dissolve in Water impregnated with one single kind? As suppose a Quart of Sea Water, which has two Ounces of Salt in it; (as I have tried by Evaporation) will not this receive Nitre, suppose a Dram, and after that as much Allome, and after that Vitriol as much, and so become an Emetick, and last of all Arsenick; so as it shall become poison? If Mr. S. shall dissolve *Vitriol* in Water, of any kind whatsoever, whether *Natural* or *Falstions* (which he cannot deny must be stronger of *Vitriol* than any Spaw) and then shall pass that Vitrioline Water thorow three or four Cap Papers; wherein several sorts of Powders are put, the same Vitrioline Water shall receive an alteration, or some taste, from every of them; and after they are so mixed *per minima*, it will be easie to separate the Salts from the grosser parts; but one Salt from another will be very difficult.

But

But further I reply, If this be true infallibly, as his confidence does seem to import; for he says (P. 4.) *If one of the Principles be made by this Esurine Acidity, Nature is not at leisure to make another; which were such an Indulgence as she never granted her self.* How does this agree with that Mr. S. himself says (P. 45.) in the beginning of the Second Section? viz. *Thus far I assented, viz. That an Aluminous Salt from a Mineral Acidity had dissolved a sleight touch of the Mineral of Iron, and, both dissolved in the Current Spring of Water, makes up the Spaw.* Are not here two Minerals made, viz. Iron and Alum, by his own Confession? The like Confession he makes (P. 61. N. 16.) Nay further, he see if I cannot find two more. Look (P. 359.) and there he says, *Upon a farther Trial of the Spaw Water, he found a Body of Vitriol, which he calls Terra Vitrioli.* Then turn but over leaf to (P. 360) and he tells you he found Nitre: And so again (P. 361.)

How now (Mr. S.) how will these things hang together, can all your Philosophy reconcile this Contradiction? What

now

now will become of your Inference you deduce from the former Assertion in (P. 4.) viz. *So then we find a flaw in the main Timber of his Building; an Inconsistency of two of his Chief Principles of the Spaw, Iron and Vitriol.* Certainly an Inference drawn from both ends of a Contradiction is invalid.

But I must not thus pass it over. He has told us here (Pag. 3.) *That the Primum Ens or Esurine Salt having dissolved one Mineral, is thereby terminated, so as if it should meet with another, it can take nothing thence.* Now let us cast our Eye upon (P. 59.) where Mr. S. hath quite forgotten what he said here; for speaking of this Sulphurious Esurine Salt (he says) *It becomes determined and specified, according to the difference of the Mineral Glebes it meets with, into this or that Possible Salt or Mineral Mixture; which he illustrates by an Instance which he has verbatim from Sendivogius, Lumen Chym. Trac. 2. As suppose several Colours and Salts placed at a distance one from another upon a large Marble, and common Simple Water is conveyed to each of them,*

them, this Water although the same to all, yet as it comes to every of them, is differently tinged and tasted, according to the Colour and Taste of those parcels it meets with. So (says he) this Esarine Sulphureous Spirit, meeting with variety of Mineral Earths, though the same in it self to every one, yet becomes altered and tintured according to the different property of the Mineral Earth.

And from this Contradiction he has other Inferences which he mentions, not worthy here to be recited.— Here is an able Philosopher indeed, that can assert Contradictions, and draw *quidlibet ex quolibet*. But I shall leave this to the Readers Contemplation, because I study to be short, and shall only say at present, I never found any man so inconsistent with himself; only he aimed (*P. 3.*) to perswade the unwary Readers, that it was impossible that *Iron* and *Visriol* could be both in this Water, as I had asserted.

I could now bring in the Testimony of Learned Writers, who tell of several sorts of Springs in Europe, that have imbibed

bibed two or three sorts of Minerals. As at *St. Lucas* in *Italy* there is one that has imbibed *Iron* and *Alome*. Another in *Germany* which is impregnated with *Alome* and *Nitre*; so as *Ernestus* a *Chymist* can hardly determine which of the two is more predominant. So in *Sweden* one that has both *Lead* and *Copper*. And thus also the ordinary Spaws in *Germany* have imbibed *Vitriol*, *Iron*, and *Ochre*, as *Dr. Heers* relates in his *Spadacene*. And *Fallopins* mentions several such as have partaked of several Minerals, in his Book *De Therm. Aquis*. Among all whom yet I find not any mention of this *Primum Ens*. But above all, the profoundly Learned *Kircher* is most full and plain to our purpose (*Lib. 5. Sect. 2. ad finem.*) accounting not only Spring Water a proper *Menstruum* to take in the Virtues of Minerals and Metals, but one and the same Current to take in several as they lie in its passage; for which purpose he has a Scheme (*P. 259.*) whereby he demonstrates it to the Eye. As suppose upon a Table a Subterranean Channel of Fresh Water enters at one end, and

runs

runneth at the other end of the Table in one Spring, in its passage from one end to the other it is divided and divaricated into several smaller Channels, by crooked turnings; in one passage it meets with Salt, Vitriol, Iron, Calx, and Silver; (in another Meander it meets with Sulphur, Salt, Nitro, Ochra, Cadmia; in another it meets with Alome, Bismuth, Lead, &c. By this time these several streams meet in the Spring at the other end; this Spring he says, shall be replenish'd with the properties of them all. *In fonte unius canales dicti corrivati, ex omnibus per quos transiunt Mineralibus, fontem istum omnibus Mineralium speciebus viribusque compositum constituent.* And therefore we may with very good reason reject his Objection as idle and frivolous.

But I proceed, Mr. S. (P. 3.) cannot find out what is the dissolvent in this Water, that should dissolve Mars (viz. Iron) to make it appear in the form of a Liquor? Why, I'll tell him what will do it besides the Alkaleſt of the Chymists; Vitriol imbibed at the first, does by its Esurine Salt make the Water corrosive, and fit to

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take

take in that, or any other Mineral that is
 in its way, and so will Nitre, as I made
 out before, or Alome. If it will please
 him I'll refer him to his Grand Master
 Paracelsus (*De Natur. Aquar. lib. 3. cap.
 de Aquis Gustatilibus*) where treating of
 Acide Waters, *Harpa est* (inquit)
ex resolutione Adet aliorum, *quoniam ad
 maturitatem pervenit* are pro-
 duced by the re- *atque libere*
 they come to *By which* he
 hints as if simple *alone* were suffi-
 cient to imbibe a Metal (as Iron) while it
 has not attained to its perfection, which
 is the case of the Iron at Scarborough, as
 I shall have occasion to point out after-
 wards. And presently after *Paracelsus*
 adds, *Interdum ex Vitriolo & Aluminis*
hujus-modi Aqua promanant. viz. Some-
 times these Waters come from Vitriol
 and Alome. And again I find him to
 the same purpose (*De Natur. Bath. cap.
 de Thermis*) treating of Natural Baths,
*Quod sunt resoluta Mineræ ex corpore
 quod simile est Aluminis, Vitriolo & Sali*
& tamen id non est, to wit, they are re-
 solved out of that Body which is like unto
 Alome,

The Doctor undertakes to discourse of *Vitriol*, not such as he had seen, but such as (he saith) *Learned Writers name*; viz. 3 sorts, Roman *Vitriol* or *Copperas*, which two I do not understand to be *Synonima's*; the second *Cyprian*, and the third *Ligurian*, &c. He seems to envy that I discourse about *Vitriol*, as if it were a *Prerogative* of the *Pseudochymists*, and not to be undertaken by me; as if I knew not *Vitriol* as well as himself, and have not as much liberty to treat of it as He. Nor will he give me leave to cite my Authors, that from their own Knowledge and *Autopsy* discourse of *Vitriol*; (I speak of that which is natural, such as this at *Scarborough*) for my own part I have not such a conceit of my self as he has, as that I should impose in this thing my own *autoc* *te* as sufficient Authority, and therefore I cite my Authors as need is. He quarrels that I call it *Roman Vitriol* or *Copperas*, whereas I am warranted by good Authors. *Weckerus* (in his *Aurid. spec. lib. 1.*) says, That which the *Italians* call *Vitriolo*, the *Spaniards* call *Copparosa*: So *Adrianus Tol.* (in *Stocker. lib. 1. cap.*

cap. 9.) *Vitriolum simpliciter* (inquit) aut *Vitriolum Romanum*, nihil aliud est quam *Copparosa*. As for the Roman its nothing but *Natural Vitriol*, brought for the most part out of *Cyprus* or *Germany*, which they dissolve and cast into forms, to which they add some pleasant Colour, usually of *Blew*, which yet diminishes much of its efficacy.

In his third Section (P. 6.) He proceeds to examine the four wayes whereby I say Water may imbibe the Nature and Vertue of a Mineral or Metal. And the first was *by receiving its Vapour*. Thus Water standing some while in a *Brass* or *Iron* Vessel, will taste of the *Brasse* or *Iron*. Here he cavils at the word *Vapour*, as improper; which to me does imply that he is little versed in any solid Authors that treat of this Subject. It's needless to spend time to prove to him, that the best Writers do rather chuse to express their sense of the imbibition of the *Vapours* of Minerals than *Odors*, which he rather espouses. *Fallopins* (in *Ther. Aqu.* cap. 8.) uses the term *Vapour* above 40 times in the sense I am speaking

Of the
Vapors of
Minerals

of, even in one leaf-side (P. 214.) So Kircher (*lib. 5. de Virt. Aqu. cap. 3.*) reckons this as one way whereby a Water imbibes Minerals and Metals, and says *Vitriol* is thus imbibed in its *Vapour*. Whence is this *Odor* but from the *Effluvi-um* of minute parts out of the odorable body to the *Sensorium*, and what is that but a *Vapour*? I observe (P. 46.) he allows an *Aporrhia Mineralis*, which word either he understands not, or must not deny the word *Vapour*.

But to go on, he says (P. 6.) That no *Metallick* body doth or can give a *Vapour* to a simple *Elementary* Water, as long as the Water is *Homogeneous* in its parts. I answer. This is quite from the point in hand, we are not treating here of *Simple Elementary* Water, but of ordinary Water, which is neither so *Simple* nor *Elementary*. But where is Mr. S. his Philosophy, he calls it *Simple* and *Elementary*, and yet says, *as long as it's Homogeneous*; as if Water could be *Simple* and *Elementary* and not *Homogeneous*. Really the very Freshmen do not reason at this rate. What? A BATCHER

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Leopoldo OF ARTS, and reason
 that I must let you know in charity to
 your *Dignity*, that you never saw Simple
 Elementary Water, nor ever shall while
 you breath, and that its not indeed capa-
 ble of receiving a Vapor or Odor from a-
 ny Mineral or Metal. *Galen* will tell you
 (*8. de phlegm. Hypoc.*) that it is, *Minima*
parva et tenuissima est Elementum, quae lyncris
cujusvis oculis non est soluta; and yet the
 same *Galen* will tell you, that, *Elemen-*
tum per totum alterabile est. (*lib. de Confit.*
Art. Aded.) Reconcile these Riddles if
 you can. But if he means that no Me-
 tallick Body can give a Vapor, or Odor, or
 Sapor (I matter not which) to Spring
 Water; it's a shrewd Argument, he has
 not much conversed with Ladies in his
 Practice of Physick, whose accurate
 Tastes are wont frequently to distellish
 their Water, if it has stood but a while
 in a Vessel of Brass or Iron, especially if
 it be at all warm. And for that which
 he says concerning Lead, that if pure
 Spring Water were boiled a whole Age
 in it, it will not contract any Saturnine
 Impression from it. *Fallopins* is quite of

another Opinion, severely declaring against those Waters that have imbibed Lead, lest the Nature of the Lead be converted in *Litharge*, or some such thing, and so kill a Man; and therefore several good Authors, particularly *Paulus Zachias* (in *Quest. Med. Legal.*) forbids to keep Water in Leaden Cisterns, because its apt to contract an Impression, which disposes the Body to *Dysenteries*; especially such as are Consumptive, whose Bodies are subject to Colliquation. And whereas he says, *That Broths and other Liquors are boiled in Iron, Copper, or Brass Vessels, without the least taste of any of the Metals.* I cannot but wonder to find this assertion; it appears he is neither *Vir emuncta naris*, nor *exquisiti palati*. His frequent Contradictions do evince that he is weak in his Memory or Intellect, and here I am afraid he has lost two of his Senses. *Paracelsus* was of another mind (*lib. 3. de Natural. Aquis cap. 13.*) *Videmus Aquam in Cupreo vase stantem Cupri saporem asciscere.* We see (says he) if Water stand but a while in a Copper Vessel, it will taste of Copper: and


and much more certainly if it be boiled in it. I am informed by some Persons of undoubted integrity on their own knowledge of some Carps, which were taken out of Ponds newly drained; these being put with Fresh Water into a *Copper Brewing Vessel*; to be preserved but for one Night, they were all found dead in the Morning: which must certainly proceed from the *Vapors* of the *Copper*, which here was communicated to the Cold Water.

He says further; *That all compact Metalline Bodies must have proper and peculiar Menstruums to unlock them, if any Medicinal Arcanum be thence expected.* Why! I can assure him upon trial; that the filings of Steel (suppose a Pound) set to infuse in a Quart of clear Spring Water for a few dayes, the Water upon Evaporation afforded a clear Salt of greenish colour; which I suppose he cannot deny to have a Medicinal Vertue.

As for what he says concerning the boiling of Gold in broth for those that are in Consumptions, to make it more cordial and nourishing, I think with him
'tis

'tis in vain, since Gold and Silver are not ~~uncompact~~, by reason of the compactness of their Bodies, they cannot be turned into our Nature, so as to nourish. And I judge it to be a far better Cordial in the Purse than in the Stomach.

Of the
Vapor of
Vitriol.

That Vitriol may dissolve in water (he says) he denies not, but that it should give a Vapor he understands not. To make a Body resolve it self into Vapors or minute parts of like nature with the whole, is required either an intrinsick or extrinsick heat, and he apprehends not, which way so ever it be done, that yet the Carcase of Vitriol should remain. (P. 7.) By this it appears he is a stranger to Scarb. Spaw, or else (as we have observed even now) he has lost one of his Senses, that he cannot smell the Vitrioline Vapors thereof, there being nothing more ordinary, than to hear those that come there at the very first, to observe it to smell like Ink. Fallopius tells him that Vitrioline Waters may be discerned by their smell as well as by their taste. (De Therm. Aq. cap. 9.)  Aqua chalcantosa cognoscitur gustu & olfactu. And so says Kircher too in the place

place before cited. *Linguam* acedens quadam, et factum vero putentissima merphiti percellunt. So again (cap. de Thermis) *Vix acidula reperiuntur, quæ ex Vitriolo aliquid non participant, non quidem quoad eorum esse sensibile, sed quoad spirituosam vaporosamque substantiam quæ subtiliter & perfecte tinguntur.* If he will but lay his Nose to his Ink-Bottle, which I find had *Vitriol* enough in't, he may easily discern a *Vitrioline Vapor*, while yet upon Evaporation, the substance or Carcass of the *Vitriol* would be found in it. And so it is with the Water of this Spring, which by the intrinsic heat of the Earth imparted to the Water, it doth imbibe more freely. And that this may be done by the heat of the Earth alone, is agreeable to the Opinion of *Aristotle*, (lib. 2. Meteor. cap. 3.) as also of *Empedocles*, as *Seneca* reports (lib. 3. Nat. Quest.) also of *Vitruvius* in his Eighth Book; and of *Fallopins* (De Therm. Aq. cap. 4.) Besides that he himself is forced to own it (P. 59.) where he admires at the Chymistry of Nature, which by its own proper *Menstruums* extracts the Essential

sential innate Vertues of Mineral Glebes, and that by intrinsick invisible fire, in the digesting Vessels of the Earth.

Of the
the Vapor
of Iron.

But to proceed, in (P. 8.) as he has denied *Vitriol* to communicate its *Vapor* to Water, which I have sufficiently proved, and do refer to the judgement of the Intelligent Reader. So he says *Iron* cannot give it self by a *Vapor* to the Water, because it is a Compact Body; for no Solid Body is at all apt to *Vapor*. To this I have answered in part already, and shall now further adde. The *Iron* that is imbibed in this Spring, of which we discourse, is not a *Solid or Compact Body of Iron*, but like an ordinary Earth to look on, when it is newly digged, or when through the Surges of the Spring Tides in storms, it falls from the Cliffe; yet it is so strongly impregnated with the Concrete Juice of *Iron*, that in a short time, it turns through the heat of the Sun to an *Iron Stone*; of which within Six score Paces of the *Spaw*, there is as much fallen from the Cliffe as would load four or five Carts, some of which I have put into a Smiths Forge, where I saw it *possible,*

sible, and melt in the Fire. This I have shewn to several Physicians, who know it to be true; besides that there are Thousands of Gentlemen that have observed it; among which one Mr. William Cotton, who is Overseer of the Iron Mines in the Edge of Derbyshire, was present when Mr Simpson was at Scarborough and affirmed it to be Iron, and that he would undertake to make Solid Iron out of it. Now this Earth having the Spring passing through it, may very easily be supposed to impart something of its Mineral Essence as also of its Vapor to the Spring. If he will but consult profound Kircher, he'll tell him that Iron yields a Vapor to the purpose; *Observantur* (says he lib. 10. cap. 10. P. 212.) *in fornacibus, in quibus ferrum in massas componunt, vapores quidam a materia ferrea exhalantes, qui in lanuginem parietibus & celtis Officinae adherentem convertuntur*; to wit, in the Iron works where it is smelt'd Vapours arise out of the Iron which turn into a Downyness, which cleaves to the Walls and Roofs of the House. He also says that of all Metals, Iron sends out the most fetid smell.

smell. But to return to Mr. Simpson's Objection; wherein he says, That Iron or other Metals being Solid Bodies, are not at all apt to send forth a Vapor, and yet keep their Body. A man would have thought he should have shown some solidity in this point, but I find him playing with a Shadow. Do not Metals yield an *Aporrhia* while yet they are firm? Has he never seen a Wiseman (as for himself he has lost his smell) put a counterfeit Coin to his Nose, and averr that it smells of Copper? The like may be said of Iron and Brass, which a man of an indifferent Nose may distinguish by their Vapor. But he says, The Compact Body of Iron will not impart a Vapor to *Aquor*; wherein the Apothecaries Boys will laugh at him; when we prescribe Chalybet Drinks, which is ordinary in Hypochondrick Maladies; the Liquors receive a Vapor from the Iron, and yet the Compact Body of Iron still remains. I wonder his Chymical Apothecary did not better instruct him in this.

But when he takes notice (*P. 9.*) that I did not onely in my Book assert a Vapor to

to flow from Vitriol and Iron, but also something of their Concrete Juices and Substances to be imparted to the Water; Here (says he) the Doctor would almost make us believe that he was inclinable to Philosophise, for he is got as far as the Concrete Juices, viz. The Metals in solutis principis or in fieri. Why W. S. I was Master of Arts before you were born, when doubtless I had been wont to philosophise, and yet not at your rate, and I have since appeared several times in the Schools, according to the Obligation of my last Degree; and the Statutes and Customs, of the University of Cambridge, which I suspect you will scarce adventure to do; and really I have not been altogether idle since then in that Study. Had you read *Ericks*, you would have learned more Manners and Modesty, which the Difference of our Two Degrees might justly have challenged. Let the Ingenious Reader judge betwixt us. The truth is my Design was not to amuse the Common Readers with any dark or abstruse Notions in Philosophy, but to discourse of that Medicinal Spring as I might best be under-

understood; and yet so also, as that (I think) I have said nothing impertinent or absurd, in the judgement of true and candid Philosophers.

I confess when I writ that Book, I did not expect such a return as this, and yet I shall say, if I could have fore-seen it, I would not have desisted from that Enterprise; (for I think it would not have been according to my duty, to have concealed from my Countrey, a thing so generally useful) lest wanton wits should trouble me with starting vain and frivolous questions about it: nor certainly should I have found such measure, if any well-bred Scholar, had through difference from me in any particular, undertaken it. Notions in Philosophy are but *Entia Rationis*, and so do vary according as men apprehend them, and thereupon it is, that oftentimes by cavilling wits, they become Subjects of Dispute; yea and sometimes among the *Ingenious* and *Learned*. Yet it is ever the safest, to adhere to the most *Learned* and *Famed Men* that treat of those Subjects; especially if there be a consent among them,
and

and they such as could not conspire to deceive the World, nor get advantage by it. And this was my care in the compiling of that Book (wherein notwithstanding this return, I repent *NOT ONE* Sentence) to hold close to the Authority of the most Learned or Right Reason, in all things submitting to the more Wise and Learned. And in Truth I profess, I did not at that time consult these Chymical Authors, I have now an occasion to revolve in this Dispute about these Minerals; whom yet I find concur with me in all I have said concerning them.

But to return to my Antagonist, who (P. 6, and 7.) is forced to confess, *That a Mineral or Metal, while young and in solutis principiis, or in fieri, and in its Concrete Juice, may be imbibed by a Current of Water, especially if it has been acuated by an Esurine Salt; which is the same I have said in my Book, and have now again proved concerning this Spring.*

Yet (P. 10.) where he has been referring to what I say concerning the *Vapors of Vitriol*, and the Acidity which

D from

*A serious
Definitio-
on of Ink.*

from thence the Water has imbibed (he says) *he cannot pass the Notion over without a smile*; I am glad *W. S.* is so merry, I suspect by and by he 'l be found to be ridiculous. But in truth, when he comes in that Page to be *serious*, he appears a *Fool in earnest*, while he will have the addition of Galls to be that which gives the *Inky* smell to the Water, when indeed the Water yeelds that smell, while 'tis clear and new-drawn out of the Fountain. And seeing Mr. Simpson tells us he is *serious*, let us a little more observe what he says, for probably we may find somewhat worth hearing. Here he gives us a gallant *Definition of Ink* in these words: viz. *It is a solution of Vitriol precipitated, or made opacous by the addition of Galls, whose stipticity makes the DIAPHANEOUS Texture of the Particles in the Vitrioline solution desert their former posture, and muster in a confused OPACOUS manner, filling those interstices with solid Particles, which before were kept transparent, by the fluid parts of the Water, equally contempered.* Is not here good sport? This brings to my

my mind the Definition of a *Window*, which another Son of *Rhombus* gave forth in a Pulpit, on occasion of *St. Paul's* being let down out of the *Window* in a Basket. A *Window*, which he stiled a *Fenestre*, is a *Diaphanous* part of an *Edifice*, erected by the manual operation of an *Architect*, for the Introduction of *Illumination* through an *Opake Body* into the *Concavity* of the *Convex Organ* of the *Intellectual Animal*.

But that which next disgusts him, is, *That I discourse of Vitriol and Iron apart, and have not included one of them in the other, which he would have lookt upon as a point of Philosophy in good earnest. (P. 10.)* It had not been so in earnest; nor do I at all believe him if I had done so, neither I think will any rational man that reads him, since 'tis appurent he was resolved to quarrel right or wrong. I pray Sir *Simpson* are *Iron* and *Vitriol* all one? I *Vitriol* think they do as really differ as your *and Iron* *Knife* and your *Ink*: I speak not of *Fa-* *not the* *Etitious Vitriol*, but *Natural*, which is *same* *thing.* in *Scarbroogh Spaw*, or which you saw break out of the *Cliffe* near the *Well*,

having an eminent Acidity whereby it bites the Tongue, and never came under the hands of a Chymist, or into any furnace save that of Nature. Do not all *Authors* as well *Chymical* as others that treat of them, do it severally? It's needless to cite them, and indeed it would be endless. And their Vertues are as several, and therefore this Water having imbibed them both, has Vertues from them both, and on that account necessarily exacted the Description of them both.

Generat natura salem, says *Paracelsus* (*cap. de Vitriolo*) *Vitriolum dictum*. *Hoc genus peculiare est, a ceteris salibus separatur, diversas etiam a cetero sale virtutes possidens*. Nature produces a Salt called *Vitriol*, being a peculiar kind differing from all other Salts, and having Vertues diverse from them all. After the same manner do speak all that treat of it. As *Galen lib. 9. de Simp. Med. fac.* and *Mathiolus l. 5. c. 74.* *Sennert. Epit. Nat. Scient. l. 5. c. 12.* *Plin. Nat. Hist. l. 34. c. 12.* *Renodans de Mat. Med. lib. 2. c. 5.* And *Paracelsus* treating of Medicinal Water

Water (*lib. 3. de Natur. Aqu. c. ult. p. 270.*) He says great care should be taken that the Nature of Stones, Metals, or Minerals, &c. which are imbibed by the Water should be exactly observed; for so only shall the quality and vertue of the Waters that run through them be well understood. His words are, *Summum ergo studium esse debet, ut Natura Lapidum, Metallorum, &c. exacte teneatur, sic enim fiet ut Aquarum ex illis genitarum, conditio ac vis probe cognita sit.* Now if I had described the Vertues of the Water from *Iron only*, or from *Vitriol alone*, since that *Vitriol* which we have here, is not that which is made out of *Iron*, but produced by Nature it self; discovering it self both in the Water to the Taste and Smell, and in the Cliffe to the Eye, being a *Mineral of its own kind*, and *Iron a Metal*, I had not done it according to reason.

Moreover *Paracelsus* (*lib. 1. de prepar. P. 194.*) treating of several preparations of *Iron*, viz. one with *Salt*, a second with *Alome*, and a third with *Vitriol*, lays down his *Receit*, viz. *Rec.*

Limatur. ferri, lib. 2. Aqu. Vitrioli lib. 3. Reduc. in digestionem, &c. and he makes 3 Vertues to arise out of them; viz. *Virtus Styptica, Constrictiva, & Exiccativa.* How different these are among themselves let Sir S. examine. But certainly he must draw its Vertues from its composition with Vitriol, having something from the Vitriol, and something from the Iron; or else he might as well never have joyned them.

So *Scroderus* (in his *Pharmac. Med. Chym. lib. 3. cap. 11.*) *de ferro* having laid down several preparations of Chrystal of *Mars*, with Spirit of Salt and Sulphur; after the same manner (says he) *Fiunt & Crystalli Martis cum Spiritu Vitrioli, sic habes Magisterium Chalybis Vitriolatum.*

So *Sennertus* (*cap. de Tinctur.*) in the *Extraction of the Tincture of Iron* joyns *Vitriol*, p. 1394.)

Thus *Matthæus Martinus de Scorbuto*, puts them both together into one *Recipe.* (*Intent. 3*) And so *Riverius* (in his *Praxis Med. (cap. de Fluxu Hepatico)*) joyns them together. And again (*cap. de Hepat.*

Hepat. obstructione.) Sed praeter ceteris omnibus Medicamentis, ad delendas obstructions inveteratas maxime conferunt remedia ex tartaro, vitriolo, & chalybe conflata. Then he goes on to tell of several preparations made out of each of them, as distinct: and further adds, *Vitriolo autem Efficaciam ostendunt Aqua naturales acida & vitriolata, quarum usus frequentissimus & utilissimus est, in omnibus morbis ab obstructionibus Oriundis.* That is to say, The Efficacy of Vitriol is best discovered in the Natural Vitrioline Waters, whose use is most frequent, and most effectual in all Diseases that arise from Obstructions.

Indeed nothing is more ordinary than to find our best Authors joyning Vitriol and Iron together, which certainly upon Mr. S. his Principle, they should not do, if they be both one thing. From all which 'tis to be inferred, that they do differ in kind; and since I find them both here, I ought in all reason to treat of them accordingly. Had I mentioned Iron alone, I had done little; for what would it have been better than a meer

Chalybeath Water, which might have been of some vertue indeed to open Obstructions, but not so penetrative; like a Razor, good Metal, but had wanted an edge, besides that it had not been full to the point. And if I had mentioned Vitriol alone, it had been like an edge indeed, but without the Metal wherein it was set.

But what have I done herein more than others that treat of such like Waters? Dr. Heers says (in his *Spadacrene* P. 34.) That the German Spaws consist of Iron, Vitriol, and Ochre, thereby making Iron and Vitriol distinct as I have done. So *Frambesarius* and *Ryetius*, &c.

But he accounts, *This Vitriol to be so near of Kin to Iron, as that it is produced out of it.* I reply, that hitherto he denies them both, and therefore his Objection is impertinent, while I am proving them both. Besides if this were so, then they would differ as *Materia* and *Materiatum*, which sure are not the same, but may be discoursed of severally; or else the whole Current of Philosophers are in a great Error, and must learn of Sir Simpson.
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That this Spring is of an Azure or Sky Colour it is plain to the Eye; from whence has it taken it, but from the imbibed Minerals, among which I say (I think) it is the *Vitriol*, *Iron*, and *Alome*; and my reason for it is, Because these being infused, do contribute such a Colour to Water (but especially I judge it to be from the *Vitriol*.) But this man is so severe he will not allow me to say what I think, but cries out on't as *Precarious Philosophy*, and *want of Chymical Experiments*. In the former I assure him, I own nothing but what is grounded in sound Reason or Sence, nor do I in the particulars we are treating of: And as for the latter, I know as much as I need, and perhaps he will think by and by I know too much in knowing him. However I have other necessary employment for my time, so as I cannot have leisure to lay it out in making Mechanical Experiments: I shall leave that to others or him, who has little else to do.

But yet that Mr S. may know that this is not precarious, but others are of the same mind, I refer him to *Kircher*
(lib,

(lib. 6. de Vitriolo) who saith, That Vitriol does give such a pure Limpid and Azure Colour to Water; and he gives a reason for it; viz. *Quod grossiores aqua partes in Chalcanti incisiva & subtiliativa dissipata subsideant, atque ob corpusculorum vitriolatorum diaphœnam & vitream substantiam, aqua lucidior splendidior limpidiorque reddatur.*

How to
discern
Vitriol in
the
Spring.

But Mr. S. queries still (P. II.) How came the Doctor to know that Vitriol and Iron were ingredients, seeing the Badges of distinction clash? &c. To this I think I have said enough already to satisfy any intelligent man, and yet further thus briefly.

First, As to Vitriol, I knew this to be there from the Eminent Acidity of the Water; and though I did not learn this out of Paracelsus, yet I find him concurring with me in judging by this Token: (*De Natur. Baln. Tract. 3. c. 9.*) *Therma nonnulla sunt qua acetositatem & dulcedinem habent. Ha si ex nativa constitutione tales sunt, ex vitriolo oriuntur. Id enim si ex prima sua materia resolvitur, acetosae aquas profert.* To wit, There are some

some sort of Baths or Waters that have an Acidity and Sweetness in them (I suppose he means a pleasant Acidity) these if from their Natural Constitution they are so, do arise from Vitriol; for if it happen to be resolved from its first matter in Waters, it makes them to become Acid. *Unde Vitrioli virtutes illis assignanda sunt*, and therefore, says he, the properties of Vitriol are to be ascribed to the Waters. (P. 189.)

So Fallopius counts the Acidity to be a sufficient token of the imbibition of Vitriol (*De Therm. Aq. cap. 7. p. 217.*) who treating of the Spaw in Germany, and that at Rome (concerning which I have met with several Gentlemen speaking, That they are not so Acid as this at Scarborough.) He says, *Arbitror eas esse acidas, quia habeant in se Chalcanthum purissimum*, therefore I think them Acid, because they have pure Vitriol in them.

Another token of Vitriol is that *Asporrhæa Mineralis* or Vitrioline Vapor, which any one of an indifferent smell may observe, which is somewhat like that of Ink, though more pure.

A third Argument is that *deep Tincture* that the Water takes from Gall, more than any other I have seen or read of, which cannot come from the *Alome* (notwithstanding Mr. *Simpson's* perswasion, as I shall evince in its due place) nor any other of the Minerals.

And lastly, There is in this Cliffe within Six score Paces of the Spring a *Vitrioline Salt*, which sweats out of the Cliffe, of Dark Yellow Colour, very sharp to the Taste, even fir beyond *Nitre* or *Alome*; which affords good ground of probability that it is in the Spring.

Iron in
Scarbr.
Spaw.

Touching *Iron*, it is (me think) plain that here it is in its *Body*, which is precipitated to the bottom of the Vessel, after it has stood some hours tinctured with Gall, there being in every Gallon near a Dram, when the Water is evaporated; which being calcined yields a *scoria* like Iron, and of Reddish Colour, as I shall have occasion to make out by and by. Besides that there is a Body of the like Nature and Vertue, that falls to the bottom of the Vessels; wherein this Water is carried abroad into the Countrey; the like

like to which falls to the bottom of the Vessel, wherein the Water is set upon the Fire for Evaporation, upon the first approach of the heat.

Again, The Blackish Colour, which is imparted to the Excrements of those that drink of these Waters, denotes Iron, it being peculiar to all the preparations of Iron, which we have occasions to use.

And lastly, The Cliffe out of which this Spring flows, is plainly *Iron*, which though at the first when it falls it be like ordinary Earth, yet at length by the weather it becomes *hard as Iron* and heavy, and is fusible in the Fire. To all these I might adde, the singular Vertues which are evident in the Water for *Hypocondriack Diseases*, the Stone, and advancing the Tone of the Stomach, both in point of Appetite and Digestion, do sufficiently make out the presence of them both.

Thus much may suffice to be said concerning the Exceptions made by Mr. S. against the first way I mentioned, whereby a Water might imbibe the Vapors of Minerals. The second is, when some of
their

Of the
Corrosion
of the
Substance
of Me-
tals.

their Juice is dissolved in the Water, and that is while the Minerals are young, or in *solutis principiis*. This he passes over. Is it not kindness I can please him in any thing? But he quarrels at my third way, and that is by corrosion of the substances of the Minerals mentioned by *Galen* (*lib. 1. de Simpl. Med. fac. cap ult.*) and this I said is done by the help of the Concrete Juices, which extract and corrode Mineral substances. Here we find a *Galenical* way (says *W. S.*) of Solution, it is out of their road to discourse of these Mineral Solutions, for want of Chymical Experiments, which they are not at leisure to take notice of. Ay! this is the Choak-Pear, the very Name of *Galen* is a Bugbear to *W. S.* I find him ever running in to a rage, where I had occasion to name him. This is that which frets him, that the *Galenists* meddle with these Notions; and I confess I am not at very great leisure now to trouble myself with them, save that I am willing to step out of my Road to curb the *Cracks* of a *Thrase*.

Nor is there any Contradiction in what I say in this Assertion, *viz.* That the
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Concrete Juices corrode, and extract Mineral and Metallick Substances. For the Concrete Juice of Vitriol which is of a Corrosive property, being imbibed in a Spring Water, will corrode other Minerals or Metals; (so says *Helmont* himself in the place before cited) that it passes through, as *Iron* and *Alome*, whose Bodies are firmer, especially before Consolidation, which is the case of *Iron* here, as now I made out, and also of the *Alome*: for the Solvent and Agent is Vitriol, the Soluble and Patient is *Iron*. And in this Water upon Evaporation, or otherwise (as I have newly made out) we have the very Substance of Minerals and Metals. And to this agrees *Fallopianus* who was *Chymist* enough (*de Metal. P. 216.*) who treating *de Balneo Apeninano*, and that which is at *Corsena*, says, *In istis Aquis dispersa sunt ramenta & minima particula lapidis*; In those Waters are dispersed some Shreds and small Particles of Stone; and afterwards in the same Chapter he gives an account how it comes to pass that they imbibe Metals, viz. *Quia non sunt adeo dura & solida,*

at in hac terra superficie ; viz. because they are not so hard and solid within the Earth, as they are upon the Superficies. And thus also say *Galen*, *Vitruvius*, and *Livius*.

In (*P. 13.*) he repeats what he said before of his Esurine Salt, or *Ens Primum* (*P. 3.*) and how that it cannot imbibe any more Minerals than one, which I have there with good reason exploded, and sufficiently confuted. And these will appear much more frivolous, when I shall by and by discover him confessing, that *This very Water at Scarbrough* has imbibed four Minerals or Metals, viz. *Vitriol*, *Iron*, *Alome*, and *Nitre*.

But he frets at the Example I mention concerning *Aqua fortis*, which corrodes the substance of a Metal put into it, and converts it to its own nature; whereby it is become all liquid, the solid Metal being become fluid as its *Menstruum*. This Example does sufficiently illustrate what I am designing it for, notwithstanding the Metal upon the Evaporation of the *Menstruum*, may be found in the bottom. A thing I no more doubted of, then I do
the

the residence of the Minerals of this *Spaw*, upon the Evaporation of the Water.

In (P. 15.) he proceeds to examine the fourth way, whereby I say a Water may insbibe the Nature and Vertue of a Mineral or Metal, and that is by *Confusion*, changing the Substance of the Mineral into Water, and this I say in my Book is, when the Mineral is of so liquable a Nature, as that 'tis capable of being converted into Water. Here W. S. is extremely severe and abusive, calling it a *Rustical Notion*, with a parcel of *base language* against me; unbecoming a Scholar or a Sober Man. Indeed in my Second Impression I had thought to have left out this, because of its near coincidence with the former, but I was out-run by the Printer, having been abroad some dayes. Nevertheless I can defend it to be agreeable to reason and the expressions of the Learned.

It's plain that a Mineral that is dissoluble in Water, as *Vitriol*, *Nitre*, *Salt*, may be so fully taken into the Water, as that the Water and Mineral are *confusedly*

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joyned

*Minerals
joyned to
Water by
Confu-
sion.*

joyned together, every drop of the Water having something of the Mineral Particles, and every Particle of them mixed with the Water. And thus any sort of Mineral Earth dissolved in Water, may be said to be *confusedly* joyned to it, so as one cannot see to the bottom, though with standing a while, or filtration, or evaporation, they may be separated. And thus a little Gall put into this *Spaw* Water, makes it become *confused*, while yet the Minerals are in it.

Proved
by Au-
thority of
Learned
Writers.

Let me now produce the Authority of Learned Writers. *Fallopins* treating of this Subject of Water taking in Metals and Minerals, mentions several wayes, and one is by *Confusion* (*De Therm. Aq. cap. 7. p. 212.*) His words are these, *Alter vero est, quod quadam Aqua sunt, qua habent quidem Metalla suscepta pariter in Terra concavitatibus inter fluendum; tamen Metalla illa non sunt cum Aquis istis bene commixta, — sed sunt potius cum Aquis CONFUSA.* To wit, Another way is, that there are some Waters, which have in them Metals, which they have taken in as they pass in the

the Cavities of the Earth, yet those Metals are not well mixed with those Waters, but are rather *CONFUSED* with the Waters; then he goes on, *Aquas autem quæ hoc modo non vere mixta, sed CONFUSA habent in se Metalla, plures habemus, & inter alias est Aponitana, &c.* And we have many Waters, which after this manner have not the Minerals properly mixed, but *CONFUSED* in them; of which sort is that which he calls *Aqua Aponitana*, which he says is of great use and esteem, and has been so of old; and in the same Page, *Secundus igitur mixtionis modus est, quando Metalla non vere commiscantur, sed CONFUNDUNTUR cum Aquæ substantia.* To wit, The second way (says he) whereby a Water takes in a Metal, is when the Metals are not properly and truly mixed, but *CONFOUNDED* with the Substance of the Water. And this way he interprets to be, when the Substance of the Metal falls to the bottom of the Vessel wherein the Water is, of it self, and without any Art.

Thus the *Aqua Aponitana* has imbibed Linné Stone, and that of *Corsena* he says has shreds of Marble. Yea and the profound *Kircherus* himself (in his *Mundus Subter.* P. 347.) speaks to the same purpose, and almost in the same words; making this one way whereby a Water Spring may take in a Mineral or Metal; *Nam nulla Aqua medicata sunt, quæ non perfecta sed CONFUSA mixtura constituentur, id est, quæ sensibilibus variorum Mineralium corpusculis scatent, & nullo negotio ab eis separari possunt.* And a little after, *Sunt quidam Aquæ, quæ partim vera rerum, quas continent mixtura, partim confusa constant.* And again, *Hoc pacto multa sunt theriaca quæ calcarium lapidem a se separant, utpote CONFUSANEÆ quædam ratione his indurum.* And after the very same manner has this Water of *Scarborough* imbibed Iron, which either by a little Gall, or Carriage at distance, will fall to the bottom; while yet the rest will require Evaporation to separate them from the Water, except the Vitrioline Spirits which are so volatile that they soon fly away.—

After the same manner does Dr. Jordan a Learned Chymist discourse in his *Natural Baths*.

I can also confirm the use of this term out of *Galen*, if my Antagonist can have patience to hear his Name (*Lib. 1. de Elem. ad finem*) where treating of the Four Elements meeting in every Mixt Body. *Ea est a per se CONFUNDI, & suis eorum substantiis misceri docet.* He says, They are all *CONFOUNDED* and mixed with one anothers substances; which he illustrates by the similitude of the mixture of Wine and Water; both whose parts are so *confusedly* broken into Minute Particles, as that there is a mutual action and passion, and participation of the qualities of each other. By this time (I doubt not) the Reader sees the weakness of the Young Man in this particular, wherein he lays so much stress; and how unfit he is to be Judge in matters of this Nature, who is so great a stranger to the expressions of Learned Writers and sound reason.

And because speaking of the solution of *Nitre* and *Salt* in Water, I said they

*A severe
Coarse.*

are of so *liquable* a Nature, as that they are capable of being converted into Water, as if they were nothing but Water, he would infer (P. 16.) *That therefore I will have them to be perfectly turned into Water it self.* Can any man think that I am so void of sense as to intend any such thing; however 'tis enough for him to fall upon me with base and bitter invectives. The Reader may judge my purpose was to speak in all things to Vulgar Capacities, and therefore I was necessarily to be plain, and to refer them (in this thing which is not so material) rather to the external senses and outward appearance, than to the intrinsick nature of the thing it self. I endeavor that I may not return any railing accusation, yet cannot but admire at the malicious spirit of the man.

✧ I find himself using the very same expression concerning *Iron* and other Metals, which *by force of fire become liquid and fluid in the Crucible like Water.* (P. 22.) Does not he think, that no man that is short of a mad man, would believe that he intends the Metals are turned
into

into Water? And so when there he says again, *The Metals flow together with it by the attuation of their Mercurial part, as if it were nothing but Mercury*; does it follow that he intends it is perfectly turned into Mercury? Why should Sir S. cavil at my expression, and infer that from it, which the most ordinary capacity cannot but take in a right sense; when he himself within three leaves uses the very same liberty of expression, which needs the same Candid Interpretation? This brings to my mind a merry story which I know to be true. A Countrey Wife complained to a Justice of Peace of her Husband, that he wasted their Estate in Ale: The good man answered the Justice, that whereas he spent a Groat, his Wife spent two; hereupon the Justice sent for her, and told her what her Husband had said: O Sir, (said she) it never angers me what I do *my self*, but that *he should spend* any thing it vexes me to the heart.

(Pag. 18.) *Dissolve Vitriol in Water, filtre it so as it becomes a clear solution—*

Then he goes on, and after some small
E 4 process,

process, he says, *The Sediment gives a Terra Vitrioli*, or Metalline Earth of *Vitriol*. I desire here the Reader to take notice, how this *Terra Vitrioli* comes from *Vitriol* dissolved in Water. Now look into (P. 359.) and there *Sir Simpson* tells us, that for farther satisfaction, he made more Trials of the Water of *Scarborough Spaw*, and the first precipitation was a Reddish Sediment, which he calls *Terra Vitrioli*, and whence that, but from *Vitriol* which is dissolved in the Water, the very thing, which I had asserted in my Book, and which he has all this while been contending against, with so much vehemency and bitterness of Spirit against me.

Now I appeal to the Judicious Reader, whether thus far I have not defended these two Principles of the Water, *viz.* *Iron* and *Vitriol*, against all the allegations *Sir S.* has brought against them. He has (P. 19.) one Argument more, wherein he thinks he thrusts home; the rest probably he might suspect would not hold me, and therefore he has here one which is worth them all; He says it's *dis-*
far

Mr. S. his
Main
Part.

ferrominium, as being demonstrative and confirmed by *Autopsy*; and this is it, His Friend the Chymical Apothecary at York, took some Minerals, which I had taken out of the Water of Scarbrough after *Evaporation*, and gave him; these he put into a Crucible, and calcin'd for the space of almost three hours, and all this while without the least appearance of any Red Colour, or the least foot-step of either Colcotar or Vitriol, or Crocus of Iron; it became fixt and permanent in the Fire, and lost little of its weight; it also became whiter in Colour. Now for certain (says Sir S.) if there had been any thing of Vitriol or Iron in it, the discovery would have been made, and it forc'd to confess its Nature, by its Yellow, Red, or Purple Colour, with so great force of Fire.

Here we see where Sir Simpson's strength lies, even in a Hair, which I shall as easily snap, and so put this proud Fencer by his best Guard. Now if I prove that Vitriol will calcine White, then his Argument is invalid, and this I shall do, both by the heat of the Fire, and also of the Sun.

Battered
to the
ground.

First,

First, By the heat of the Fire it will be found to *calcine White*, if he will believe the Testimony of his own beloved *Zwelfer*, who is indeed one of the Principal Writers in Chymical Matters; in his *Pharmacopœa Regia ad finem*, describing the Composition of a *Cerate*, which he calls *Ceratum magis durabile ad Hernias*, he has these words,

Vitrioli Veneris pulverizati, & ad albedinem parumper calcinati 2 1 ℔.

Secondly, It will *calcine White* by the heat of the Sun, if he will believe the *Virtuosi of France*, who in their Conference 238, treating of the making of *Sympathetical Powder*, do say it's made with *Romane Vitriol*, which they beat not over small, and lay it in the Sun upon Papers for the space of fifteen dayes, during which time (say they) *it is calcined into an exquisite whiteness*. If he will not trust them, let him ask his *Chymical Apothecary*, if he have not of it in his Shop, who I believe can let him see it; so as now there is left him no way to evade, but by questioning the Authority
and

and Verity of these Authors, as afterwards we shall find him in an Argument I pinch him from *Doctor Heylin*, in my Discourse about the Original of Springs.

But I shall not rest here, I do very much wonder that Mr. *Simpson* or the *Chymical Apothecary* (whom of the two we account the better Chymist) could expect that these Minerals, being so much diluted with Water, should calcine either into a *Colcothar* or *Crocus*, that they should discover any other colour than *White*; for upon their dissolution in this Water-Spring, they must necessarily deposite what other Colour they had, if they will believe their Grand Master *Paracelsus*, whose Authority in this matter is Authentick enough. He (in *lib. 4. cap. 1. p. 271. de Aquis crescentibus*) treating of this very Subject; *Videtis* (inquit) *Metalla & Mineralia similitudinem nullam habere cum corporibus illis, ex quibus generata sunt*: You see that Metals and Minerals (dissolved in Water) have no resemblance with those Bodies out of which they are generated; and presently after he explains himself more particularly to
my

my purpose, *Videtis Vitriolum aliud viride, aliud ceruleum, ac probe coloratum esse: Id si in Aquam resolvatur colorem omnem deponit.* That is to say, You see one sort of Vitriol is Green, another Blew; but if it be resolved in a Spring Water, it lays down all its Colour. And he goes on to illustrate this by Gold, *Similiter & auri color flavus est, qui tamen in transmutatione fit purpureus; si autem per transmutationem hanc resolvatur, tunc Aquam nullam tingit amplius, nec colorem in se continet.* In like manner (says he) though the Colour of Gold be Yellow, and in transmutation it becomes Purple, yet if it be resolved by this transmutation that is in Spring Water (for that is the Subject he is treating of) it tinges the Water no more, nor does it keep its own Colour. Now I wonder these Gentlemen being so great Chymists, should not be better read in *Paracelsus*.

Had these been perfect Minerals in their kind (I mean this Vitriol and Iron) they might with good reason have expected they should have calcin'd of a Red or Purple Colour; as we see if perfect
 Vitriol,

Vitriol, whether White *Vitriol* or *Copperas*, be dissolved in Water, and that Water be filtered never so clear, the Water being evaporated leaves a Reddish Sediment, and that will calcine Red, as I have tried; but if the Mineral, viz. *Vitriol*, or the Iron be imperfect, and onely in *succo primitivo*, no such thing can be expected; for they admit thereby of a change both in their Taste and other respects too, as if indeed they were a quite other thing. And thus says also *Paracelsus* (*lib. 3. De Nat. Aq. Tract. 2. p. 263.*) *In istiusmodi destructione corporis Mineralium, ipse quoque gustus dissipatur.* Then he goes on to particulars, *Sic in Aluminis resolutione observatis, quae Alumini non conveniunt. Isidem & in resolutione Vitrioli decedere videtis, quae Vitriolo similia non sunt, etsi ejusdem substantia & materia sunt.* To wit, Thus in the resolution of *Alome* into Water, you observe some things that are not agreeable to *Alome*. And so again in *Vitriol*, you see some digressions that are not like *Vitriol*, while yet they are of the same substance and matter. And this is as plain

plain in this case of ours, as if *Paracelsus* had designed it purposely, and intended to correcting his followers in this their mistake. For these Minerals are not here corporally but percolated, as he himself expresses it (in the 13th cap. of his 3d Book *De Nat. Aqu.*) *Sic & persape accidit ut Minera Vitrioli, aut Aluminis, aut Sulphuris, aut Antimonii concyrrat, non quidem corporaliter probe tamen percolata.* Now the eminent Digression that falls out in these two Minerals *Vitriol* and *Iron*, as imbibed by this Water at *Scarborough*, is this; that since they are not here in their perfect Bodies, but exceedingly percolated and diluted; they therefore do not calcine into a *Colcotar* or *Crocus*, not Red, but *White*.

And this is the ground of the great puzzle some ingenious Chymists of my acquaintance are put to, in judging of the Minerals of the *Spaw*, and particularly *Mr. Samuel Johnston* a Phyfitian at *Beverley* in this Countrey of very good repute (concerning whom I shall have farther occasion to speak anon) from whom this very day while I write this, I received
three

three sorts of preparations out of the Minerals of this *Spaw*, viz. a *Chryſtalline Sabulum* as he calls it; *Terra Vitricli*, which I rather think to be a product of the *Iron* than the *Vitriol*; and the *Essential Salt*. This last he ſays he cannot tell what to think of it, being ſuch an Anomalous Salt; differing ſo much either from the Natural or Factitious Kinds of *Alom*, *Vitriol*, or *Nitre*; though in ſome properties it agrees with each of them. The reaſon of the ſcruple is this, which *Paracelſus* has clearly made out, that here they are not corporally, but percolated; not perfect in their ſeveral Kinds, but in ſucco primitivo; not ſingle, but all mixed together; which as yet I could never attain to ſeparate: And therefore this Salt is nothing ſo Acide as *Vitriol*, nor Emetick; nor Stiptick as *Alome*; nor inflammable as *Nitre*, notwithstanding it doth ſhoot in *Stirias*: I'll only adde this, that they are all here, though in fractis, imminutis & debilitatis viribus, and the vertue of the Water muſt be judged from them all. *Paracelſus* ſays (cap. 1. De Nat. Baln.) treating of ſuch Waters, *Quod ſint*

sint resoluta Minera ex Corpore eo quod simile est Vitriolo, Alumini & Sali & eamen id non est: ita emergunt ipsarum virtutes secundum harum trium simplicium potentias. P: 186.

But to return to my Antagonist, who is here managing his best Argument, which he calls *instar omnium*, in contradiction to these two Minerals Iron and Vitriol, which he says ought not to be white; I shall now refer him to Fallopius de Metall. pag. 217. who treating of such like Waters as this, tells of one that is near Rome in agro Volaterrano, which he says has imbibed a Juice that is white, and it is the Juice of Vitriol, not of Alome; his own words are, *In illa Aqua est Succus, & Albus, & est Succus Calcanti, non autem Aluminis.* Now its very probable that this white Juice would make a white Salt by Calcination, after its separation from the Menstruum.

☆ To the same purpose also speaks the Acute Zuelfer in his Appendix to his Animadversions, P. 95. discoursing of Calcin'd Metals, whether they yield a Salt or no. He determines that the firm Metals

Metals being calcin'd with violent fire (among which he reckons Iron) will not calcine into a Powder, out of which Salt may be extracted; but in *Scorias & Crocas convertuntur*, *ventiquam in Cinere* quibus verum Sal eliciendum. Now if so, why then should these men expect that these Minerals should calcine in *Scorias & Crocas*, since they had not here to do with perfect Metals or Minerals, but only a Concrete *maiz* of Metals and Minerals dissolv'd in Water, which now they discern plainly doth calcine into a Powder, out of which may be extracted a Salt of very great vertue in opening Obstructions, and correcting the Ferments of the Stomach and other natural parts, as I have frequently experienced, and have expressly pointed at in my Book of the Spaw, P. 152. where I said, and I know that out of these Mineral Salts which are separated from this Water, some very useful preparations might be made, to be safely joyn'd with other Vehicles to good purpose.

And thus again *Zuelser* in his Animadversions upon the 20th Class. of the

F

An.

Augustine Dispensatory, treating of the Calcining of *Vitriol*, says, *It will calcine Red or of a Dark Brown Colour*; but he blames those Chymists that expecting to make further use of it, do use to edulcorate it with Water; *Sive enim vi astringente sive aperiente polleat, ille tota per edulcorationem tollitur, quippe utraque vis vi Sale Metallico Vitriolato in aqua resolvibili consistit*: For whatever quality it has, whether astringent or aperient, its all lost by edulcoration, and all the virtue which was in the Metallick Salt, does consist in the Water, into which it is resolved. And so it is here, the *Vitriol* thus resolved into Water, is become in all respects a quite other thing, the virtue thereof being imbibed in the Water.

The Water
black
with Gall.

But I wonder all this while, that neither of these Gentlemen have said one word of the calcining of that *Black Sediment* (which I mention'd before) that falls to the bottom of the Vessel after it has received a Tincture from the Gall: This had they done, it would have given them no small light, concerning this very Point, of these two Minerals we are treating

treating about : The Black Tincture is received by the *Vitriol*, that which is precipitated to the bottom by the Stipticity of the Gall, is the *Iron* : this I calcined in a Crucible in very strong Fire, and it becomes of a Dark Brown Colour, and turns to a gross Powder hard as a Cinder, and is no other than the *Scoria* of Iron : After Calcination I dissolv'd it in pure Spring Water, and let it stand till the next day ; I also tried whether the Water being very Brackish, would take a Tincture from Gall, but it did not ; so as I conclude it has nothing of *Vitriol* : This Water I evaporated away, and it afforded a Brownish Floscule very sharp and biting upon the Tongue ; which Colour since it has it not from the *Vitriol*, for the reason aforesaid ; so nor from the Gall ; and therefore I judge it to have it from the *Iron*.

Another thing I observed in calcining all the whole Body of the Minerals ; as they are come from the Water after Evaporation : That though they do calcine Whitish, yet there are here and there *Laminae ferreae* or Flakes of Iron interspersed

perfected among the Calcined Powder, broad and thin and like those that fly off from Iron while under the Smiths Hammer: From all which it does plainly appear that here is both Iron and Vitriol, notwithstanding this Man's Denials hitherto.



I shall for the determining this Dispute about the Minerals calcining White, produce but one Argument more, which to him is *Argumentum ad hominem*: I sent for 10 Gallons of the sweet Spaw at *Knaresborough*, which by his own Confession, (*P. 136, and 137.*) *has imbibed a Vitriol of the Minera of Iron*: This Water I evaporated away, having first cleared it from all fabulous earthly mixture; what remained in the bottom I put into a Crucible, and calcined it, and it did not differ from the Colour of the *Scarborough Minerals*, nor had it any *Colcotar* of *Vitriol* or *Crocus* of *Iron*, nor any such *Lamine* as those other afforded: I weighed the Powder after Calcination, which was about a Dram and an half: Then I dissolv'd it in a little Spring Water, that it might imbibe what Salt it had in it, which
upon

upon Evaporation I found to be White, and not above 17 Grains in Weight. Where by the way let me observe to the Reader, that *Three Pints of the Spaw at Scarbrough* has imbibed more of the Mineral and Metalline Juices, than *Ten Gallons of that of Knaresbrough*, and hence it is that it is far more operative, and yet every whit as pleasant to the Palate, and as safe to be drunk.

Now that which I infer from hence is, that since Mr. *Sympson* grants, that this has Vitriol and Iron, and yet calcines White, the other may as well have them, notwithstanding it doth calcine White; and so his main Argument is altogether invalid.

I have been longer in this Argument than at first I intended, because this is his main Bulwark, which I thought fit to level to the ground; whereby I think it appears to the Intelligent Reader, that it had but a Sandy Foundation, and all the noise we have from it, was but as the blurt of a Paper-Gun charged with White Powder.

Mr. S. his
contradiction.

✶

He confesses
Iron

and Vi-
triol.

Well! Notwithstanding all this, Mr. S. concludes the Section, *Thus we discard these two Minerals of his Spaw, viz. Vitriol and Iron, as to the Body of them.* To which I reply, I have one *Argumentum ad hominem* still left. If I point out Mr. S. **CONTRADICTING** himself in this Assertion, and confessing both these Minerals to be there, then I hope the Reader will be satisfied, that what I affirm'd in my Book concerning them is true, and all this ill language ought to have been spared: *Habemus rem confitentem*; Turn to P. 39. his words are, *Nor is this variation of Colour by Galls a sufficient argument of the presence of the Minera of Iron, although I do not deny it to be an Ingredient.* Now turn to P. 44. where he grants that there is a Solution of the Minera of Iron in this Spaw, his words are, *For this Mineral Acidity is the very Solvent in the Water, which pervading a Minera of Iron, makes a slight solution of it, and being equally tempered together, makes up the Body of the Spaw, &c.* So concerning Vitriol, P. 359. where he says, *That he might inform him-*
self.

self more satisfactorily of the true Constituent parts of the Water at Scarbrough, he sent for 3 Gallons and 3 Pintes, which he let stand a while to settle; whose first precipitation was a Reddish Sediment, from which I filter'd the Water (says he) and this dried in the Sun, proved to be a Red Earth or kind of Ochre, or rather Terra Vitrioli.

By this time the Reader discerns the folly of the *YOUNG GENTLEMAN*, and the injustice of his quarrel against me thus farr: I suppose wherever I find him disputing any more as I pass, against these two Minerals, I may spare to rehearse what has already been said by me to prove them, unless his Expressions do administer new matter.

P. 30. *The Doctor proceeds to tell me of the Nature and Vertues of these Minerals: properties First, Of Vitriol, he says 'tis eminently of Vitriol but, of a biting and adust quality, &c. according to the account he receives from Galen, Dioscorides, &c. enough to tire one in the reading, &c. but methinks the Doctors long experience in re medica, Galen, should*

Mr. Simpson's patients to hear of

should e'r this have furnish'd him with plenty of Observations of the Worth and Vertue of so Noble a Mineral.

Would not a little more modesty well become this Young Man, than thus to fly in my Face without a Cause? I have already declared my design in writing that Book, was not to make long Discourses either Philosophical or Medicinal, since it would not have suited Vulgar Readers, to whom I was to write; and therefore it would have been *abs re* to have discours'd concerning the Analytical parts of *Vitriol*, or any other of the Materials found in the Water, or their preparations. He cannot but think my experience *in re medica* might minister to me some Observations concerning the Nature of them all: but I thought it most proper, briefly as I could, to give the sence of our Principal Authors that treat of them, and particularly of *Vitriol*; as *Galen*, *Dioscorides*, *Serapio*, &c. whom he has not the patience to hear named: I know *Paracelsus* in many places of his Works extolls it to the Stars, and counts all the Medicines in the World in ordinary

nary use, trifles in comparison of it: but such rancor does he shew in all his Writings where he treats of it, that I did not think it worth the while to trouble the Reader with what he says, nor to put him in the same Rank with those *Princes in Physick* that I here mention; especially since I did, in that short rehearsal of its qualities, comprise all the eminent properties of Natural Vitriol, concerning which I was to speak; referring the Learned Readers to the Authors themselves concerning their further satisfaction.

Yet because I will please Mr. Simpson, I'll now refer him to *Paracelsus*, who will tell him that I have done but as I ought: I mention'd this before, Consult him therefore (*lib. 3. de Aq. Medicin.*) *Summum ergo studium esse debet, ut Naturæ Lapidum, Metallicorum & similium exakte teneatur: sic enim fiet ut Aquarum ex illis genitarum conditio ac vis, probe cognita sit.* Great care ought to be had, that the Nature of Stones, Metals, and such like, be exactly observed; for so the condition and vertue of the Waters that have

have imbibed them, will be best understood. And in what parts or respect soever, the vertue of Vitriol consists, it matters not much; its enough that we are sure, that though full ripe and mature Vitriol be a violent Emetick or Vomit, and in no wise to be given inwardly without due correction; yet this in our Spaw being unripe and not come to maturity, is not Emetick, but most safe and full of vertue. And thus also does *Fallopins* affirm (*de Metall. cap. 7. p. 216.*) *Habemus quinetiam aquas quæ Calcanthi succum habent admixtum, qualis est aqua illius Balnei quod vulgo dicitur Bagno al Morbo, in agro Volaterrano, quæ tamen aqua tantum abest ut nocet, ut ad paranda Edelia, ad Balnea conficienda, maxima sit idonea: assumitur etiam in potum & ad alios plerosque usus adhibetur: i. e.* Moreover we have Waters which have imbibed the Juice of Vitriol, &c. which Water nevertheless is so far from killing or hurting any man, or so much as provoking to vomit, as that it is found to be very proper, either for dressing of Meat, or for Bathing in; it is also drunk
in.

inwardly, and is good for many other uses; and the like he sayes of several other Springs that have taken in Vitriol, as that near *Rome*, and those which we call the *German Spaws*.

Now assuredly in treating of this and the rest of the Minerals, it is more satisfaction to the World, that I should acquaint them with the Concurrent Judgements of all those Learned Authors, than to have obtruded upon them my own private Experiences or Observations; nor am I so desperate as he, to make dangerous Experiments upon mens bodies by Minerals; till I have enquired among sound Authors what opinion Antiquity had of them,

(P. 21.) Here he passes on to make his severe Observations concerning what I have said about the Temperature and Nature of *Iron*, and finding me to have asserted it to be dry in the Third Degree, according to the declared Judgement of several of the Princes in Physick, and others later Writers. Here (says Sir Simpson) We see that as the Galenists have their Degrees of the Four Qualities, by which

which they feel and handle the Vertues and Properties of Vegetables; so likewise it seems they reach with them to fathom the Nature of Metals. And then he runs a Risque of scurrilous language against those whom he calls Galenists and my self; discovering rather puerile folly to be laughed at with scorn, than any thing that deserves an Answer.

Of the
Four first
Quali-
ties.

The Reader is to take notice, That Physicians do ordinarily discourse of all Simples, whether Vegetables or Minerals, according to the *Four first Qualities* as they call them, of Heat, Cold, Driness, and Moisture, of each of which they make 4 Degrees; whereby they judge concerning the Temperature of the Simple, and its operation upon the Body of Man, according to those Four Qualities. Thus we say *Vitriol* is hot, that is, its heating: *Iron* is dry, that is, 'tis drying. Now while I say 'tis dry, I speak the sense of all that treat of it; not only Galenists but Chymists also. Thus *Jacobus de Partibus* in his Commentaries upon *Avicen*, saith it is cold and dry; and *Marnardus* (lib. 16. ep. 5.) and the learned

Kircher

Kircher (p. 219.) *Juxta dominium primarum qualitatum ferrum refrigerare & ficcare afferit* ; i. e. In respect of the first qualities he declares it to be cold and dry. But I find a difference among some of them concerning its Temperature, as to heat and cold. *Galen* accounts it of the Nature of Earth, and so it must be cold. (*lib. 9. de Simpl.*) So *Conciliator*, and indeed all agree in it, except *Fallopins* (*de Metall.*) who holds it to be hot, and that because *Scribonius Largus* prescribes it in Ulcers of the Bladder, which it cures ; yet not as heating, but as drying : and indeed its evident in Moist Bodies, that the constant use thereof doth very much conduce to the drying up of the superfluous moisture ; yea and all the Chymists go this way. *Paracelsus* wrote 7 Books *de Gradibus*, which begin his 7th Tome ; only he owns but 2 Complexions (as he calls them) viz. Heat and Cold, and will have the other 2 of Driness and Moisture to be involv'd in those ; accounting what ever is hot to be dry, and what is cold to be moist ; and (in cap. 8. lib. 2.) he says *Iron*, of which we speak, is
cold

told in the third Degree: but that it should also be moist, I think it needs no Confutation: however hence it appears that *Paracelsus* does own these Four Qualities, though the two later involv'd in the two former. But it seems *W. S.* knows nothing of these things, busying himself more in making a few *useless Experiments*, than in considering the Temperature of the Medicines which he uses, or the true Nature of the Diseases whereto he applies them.

Second
Quali-
ties.

Third
Quali-
ties.

Occult
Quali-
ties.

Besides these, though not immediately flowing from them, there are others, which we call Second Qualities: Such are Mollifying, Condensing, Rarefying, Resolving, Attenuating, Incrassating, Attracting, Repelling, &c. as also some which we call Third Qualities, such are Vomiting, Purging, Expelling the Stone, Provoking Urine, or the like. Likewise there are others, which we call Occult Qualities, which are found by Experience to produce eminent effects, of which the most strict Scrutinists into the Secrets of Nature, can give no plain account, but ordinarily content themselves to say they operate

operate κατὰ τὴν ἰδιότητά τῆς ὅλης ὁσίας ;
i. e. according to the property of their
whole substance they do good or harm, and
into this Classe they refer those that work
by Sympathy and Antipathy.

And now to return to what we are
speaking of, viz. *Iron*, To its drying
there is also joyned an opening quality,
on which account we use it in opening
Obstructions of the Liver and Mesen-
tery, and in all Hypochondriack Disea-
ses, as the Dropsie, Scurvy, &c. which
he mentions. But to impose it on the
Galenists, as if their chief intention in
using of *Iron* or *Steel* in the Dropsie (or
any other of those Diseases mention'd by
him) were upon the account of its dry-
ing quality, I'l have more charity than
to indite him for so great an *Ignoramus* :
I wish he can acquit himself of a malici-
ous design in saying so. *Iron* has two e-
minent properties, *Deoppilative* and *A-*
stringent ; the former lies in a *Volatile Salt*
with which it abounds, the *Astringent*
lies in the *Crocus* or *Terrestrial Part* ;
these two substances are thus discerned
and severed : Cast the Filings of *Steel* or
Iron

*Of Iron
and its
Vertues
in the
Spaw.*

Iron into the Flame of a Candle, and you shall see it burn like Saltpeter or Rozin; take these Filings and infuse them three or four times in Water or Wine, as when we make Chalybeate Wines, till the Liquor has dissolved all the Salt, and then dry it and cast it into the Flame, and it shall not burn, but the Liquor will have a strong taste from the Salt; and this is that which opens Obstructions, and is the Ingredient in our Water, the *Crocus* remaining is Astringent, of which also it doth partake. I have reckoned up many other vertues that are in *Iron* (in P. 142. of my Second Edition) which if he had duly weighed, he might well have spared those many Scurrilous Invectives, which most unjustly he lets flie in the face of those learned and most worthy Gentlemen, which he calls Galenists, and my self.

✧ But I shall spare him, since he takes sufficient revenge upon himself, in a Foolish and Nonsensical Discourse, and a company of fond Boyish Quibbles (P. 23.) wherein he makes himself ridiculous; which I wonder a man of reason should not

not blush to have done; and a man of Learning would have scorn'd to have left so many shreds of false Latine as here and there we meet with in his Book: but I suspect he takes *Priscian* for a Galenist in that he breaks his head so often; I hope next time he'll take some care to provide him a plaister.

Here I declare I do not twit him with the Printers faults, I suspect my own will not be without his: I have a Copy of the Printer's *Errata*, which I receiv'd from himself the other day (with a most uncivil Letter) wherein he mentions not the grossest lapses in Latine, making them thereby his own; having by his Letter provok'd me to put this thorn in his heel, which otherwise for his Degrees sake I had pass'd by in civility.

(In P. 33.) he quarrels at me, because in treating of several properties that are ascribed by Learned Writers to *Iron*, I tell what *Dioscorides* says, that it looses the Belly, especially when it is joyned with a Vitrioline Juyce, as here it is; and he says, *If so, it should be Emetick, and constantly provoke Vomit*: concerning
 G which

which I have already proved by the Testimony of Chymical Authors, that Vitrioline Waters, such as we are speaking of, which have in them an immature Vitrioline Juyce, do not at all provoke to vomit, and therefore all his Objections, concerning the Emetick property of perfect *Vitriol*, are nothing to the purpose: nor do those that imbibe *Iron*, but do rather strengthen a relaxed Stomach, according to the suffrage of our best Authors; wherein I refer him to *Fallopins*, who delivers both his own verdict and others too concerning this thing (*de Therm. Aqu. cap. 11. p. 233.*) *Apta quoque sunt aqua ferrea, & prosunt stomacho, lieni, renibus vesicaque, ut Amyllus, Scribanius & Marcellus dicunt.*

And for what he says concerning taking the Flowers or Filings of Brass inwardly, it is nothing to the purpose, save to fill up the design of invectives; since no such thing meant by me: I have wholsomer Medicines than those which he himself does frequently use, if we may believe himself in this Book. It is enough for the present that I have proved
Vitriol

Vitriol and *Iron* to be two Ingredients in this Spring, and that notwithstanding, it is strengthening to the Stomach and other parts, and not onely answered all his Arguments to the contrary, while he dissented; but have also discovered him to have changed his mind and granted *them both* to be there.

(P. 34.) He proceeds to another of *Alome* Principle of the *Spaw*, viz. *Alome*, of ^{in the} which I mentioned three sorts, according ^{Spaw.} to the Opinion of *Galen* and the Princes in Physick, that treat of it, viz. *χίσα*, *σπογγιλη*, *ύγρα*, all which are of gross parts and very stiptick, &c. which no doubt, says Mr. Simpson, must be a simple Mineral Salt, centred in the Bowels of the Mineral Stone of *Alome*, without any superadditionary additaments of *Urine* or *Salt of Kelp* — I wonder he could not as well judge of *Vitriol* in the Water to be a Simple Mineral of its own kind, and not factitious, as made out of *Iron* or *Copper*, as well as he does *Alome* without *Urine* or *Kelp*: whereas the *Alome* that is vulgarly used is so made, and then he had judged aright, and saved himself and me a great deal of trouble. G 2 But

But still he queries which of these sorts it is, and *accounts himself in a mist till he know*; truly 'tis easie for any man that resolves to be *Sceptical*, to raise more impertinent doubts, than the *Sages* of the World can tell how to clear: All the three sorts I mention are of one and the same property, or at least not much different; and therefore its altogether needless for me to enquire how to determine. I find *Fallopins* gravell'd about this very Question (*cap. 7. de Therm. Aq. p. 217.*) Some may aske, says he, since there are several sorts of Alome, of which sort is it that Waters do imbibe the juyce. *Dico, inquit, quod est admodum difficile hoc scire, quoniam succus aluminosus non concrevit; at ubi sit facile cognoscitur.* I say 'tis very hard to determine it (says he) because an Aluminous Juyce does not harden or rock, but where it is, its easie to be discerned. If I must give my opinion, I think of the three it is the last (to wit) the Liquid sort, which is here mixed with the Water; and this is the onely Mineral which Sir S. has some time thought to be in the *Span.*

(P. 35.)

(P. 35.) He passes on to consider of *Nitre* the 4th Ingredient, viz. *Nitre*: concerning which I mentioned two sorts: One inclining to a Reddish Colour, according to *Serapio*, and another mentioned by *Galen*, which is White; of which later sort this is: which is mixed with the *Spaw*, and this is that which in my Book (P. 13.) I asserted to be of all the Minerals the most predominant: the body of them all extracted out of the Water, being laid some dayes in a cool place, I have discerned *Stiria* or little Icicles among them, which is the peculiar form of *Nitre*. But we shall find Mr. S. peremptorily denying all this by and by: As for the properties of *Natural Nitre*, which is that sort imbibed by the Water; I have laid down there a short description out of several of the Princes in Physick, but of this more anon.

Next he hastens to the 5th and last Ingredient of the Water-Spring, viz. *Salt*; concerning which I have said (P. 146. of my Book) there is not much in it, though some Ingenious Naturalists of my acquaintance are otherwise minded;

in regard of its level with the Sea; with which in Spring-Tides it is sometimes overflowed; as also because of the brackishness of the Mineral Body that resides, after Evaporation of the Water, which yet I rather think proceeds from the other Salts; for so they may be all properly called; although *Kircher* would not have found fault with me for saying there is Salt in it; for he says there are none of these sorts of Waters without Salt: And truly I am glad I have pleased the more Wise and Learned.

But Mr. S. is very severe against it, and since I have said in my Book there is not much in it, I will not fall out with him for a trifle: But yet it is a strange thing that he will not allow any the least Tincture of Marine Salt to this Spring, which bubbles upright through the Sand, that is frequently overflowed by the Sea; and yet can suppose the *Sulphur Well at Knaresbrough* to have a Body of the same Salt in it, which is 40 miles from the Sea.

(P. 37.) He tells, that he made a Journey to *Scarborough*, where in truth he so behaved himself, that he had found

Mr. S. at
Scar-
brough.

a very rough welcome, if I had not prevented it: But it may very well be chronicled that he was at *Scarborough*, where I am almost confident he was never two dayes before in his life; notwithstanding his great pretences to treat of this Subject. He tells what discourse we had at the Well, where what he got by it, I appeal to the Gentlemen that were present, and shall now again further make out,

His design he said was to enquire, whether I had made a true report of the Mineral Ingredients of the Water or no, and at the very first he resolved that they were not there: I asked him if he had evaporated the Water to observe the Sediment, he said no. Then I told him it was not just to pass a Sentence, till the party arraigned was heard to speak for himself. When he came to the Well (I then being absent) he began to talk among a great many Gentlemen that were drinking the Waters, at the same rate that now he writes; and pulled out of his Pockets half a score Glasses: The truth is the Gentlemen at the first took

him to be a *Jugler*, but perceiving his errand, sent me word; he told me he had brought the solutions of the Five Minerals before mentioned in fresh Water, with mixing of which he would make an Essay if he could imitate the *Spaw*. I told him that the Water had passed under the Trial of very *many Learned and Ingenious Gentlemen*, both Physitians and others, and I doubted not but would abide his: and further I said that Nature was more compleat in its Operations, than to be fully imitated by Art.

I also said, That he could not parallel those Minerals which had undergone the Fire, with those that were in the Water that had not passed the Fire; nor judge of the one by the other. He said they were naked and bare solutions made without Fire; though now in this Narrative, he says, *They were made without S T R E S S of Fire, and so might well be taken to make experiment withal.* But I pray what have we to do here with Fire at all, since there is none in the *Spaw*; which certainly must alter the case? Besides

sides what he means by *STRESS OF FIRE* I know not, it's an ambiguous expression; even a small degree of heat will serve to unlock a Mineral, and dissolve its compact substance; making it speak sometimes that which of it self it would not do. And further I told him, that the Accidents to be observed in the Water were such, as did proceed from the dissolution of Minerals and Metals, *not yet come to maturation*; which of necessity must be far different from those of his, which were made out of perfect *Minerals and Metals*, as I have evinced already out of the Testimony of *Paracelsus* (*lib. 3. de Nat. Aq.*) which I mention'd in my reply to *P. 3.* of his Book, and am not now willing to repeat.

P. 38. He says the *Vitriol of Iron* made it taste very like the Sweet Spaw at *Knaresbrough*; which for my own part I could not say, that there was the least resemblance of it to that Water, which I know as well as he, for these 20 years together. He then proceeded to try what Tincture the solution of Gall would give to the solutions of the Minerals he had brought,

brought, thereby to imitate the Water of the Spaw, and he found that the solutions of *Alome* and *Vitriol*, would both take the like Tincture from Gall, and so become clear again by the putting in of Spirit of *Vitriol*; By which says W. S. I demonstrated to the Doctor what he would not otherwise believe, had not his eyes convinced him; viz. that the bare solution of the Calx of *Alome* having nothing of Iron and *Vitriol* doth give exactly the same alteration; and hence he infers, that this Mutation comes from the *Alome*, and that there is nothing of *Vitriol* in it.

What a Crack he gives, and yet he bursts not! why, there is not a word in my Book of *Scarbrough Spaw*, that could in any reason lead him to make out such a demonstration; I said indeed and so I do confidently say still, that it is the *Vitriol* alone, that being dissolved by its Mineral Juyce in this Water, takes the Tincture from the Gall. Ay (says he) but the solution of *Alome* will do so too; therefore there is no *Vitriol* but *Alome*. This is a pure *non sequitur*, especially if we consider that this solution he
talks

talks of, was made of *Calcined Alome* as himself confesses in the next, P. 39. in these words, *Seeing a solution of calcined Alome will do the same.* And so again, P. 40. *By all which it appeared that the solution of the Calcined Stone of Alome admitted the same precipitations, &c. with that of the Spaw.* Now I pray with what Logick can he argue from *Calcined Stone Alome* to this *Aluminous Juice* that is here in the Water? Had he tried whether the Crude Stone of Alome would qualifie simple Spring-Water to take a Tincture from Gall, or impart any sapor to Water, he had acted according to reason: But the truth is, I have tried it of that sort of *Alome Mine* which is in the Cliffe near the Well, having broken it to Powder, and infus'd it in Spring-Water some hours, and it received no Tincture from Gall; nay, I did calcine that very Stone, and then dissolv'd it in Spring-Water; and yet it receiv'd no Tincture from the Gall: so that I very much question, whether his *Calcined Alome* of which he made his solution were of that Mine or no.

There

There is at *Whitby* on the same Coast 12 miles from *Scarborough*, an *Alome Mine*, out of which *Alomé* is wont to be made, and sent abroad in great quantities; in the middle of which a Spring of Fresh Water breaks out, having above 12 fathom of the Mine above it, and how many 12s below it let him enquire; this I have got Captain *Francis Cummin* and Mr. *Christopher Wright* a Minister, both ingenious Gentlemen and of good repute at *Whitby*, to try whether it would receive any Tincture from Gall at the Fountain, and they do both assure me it doth not. They also sent me a Glass Bottle of the same to *York*, which I tried with Gall and it changed not at all. Nay, I do with them further averr, that it is like ordinary Spring-Water, having taken no Vapor, Odor, or Sapor from the Mine, and being evaporated, it yielded no Sediment: I calcin'd also a piece of this Mine which I had from *Whitby*, and put it into Spring-Water with Gall; but it received no Tincture: so that I cannot find either the one or the other to receive a Tincture of Gall.

Now

Now this doth plainly evince that its *Alome* not from *Alome* that this Water at *Scar-* *stinctures* *not with* *Gall.* *brough* takes its Tincture, but from some other Mineral, and that in all likelihood must be the *Vitriol*, unless we can find how to fix it upon another.

I shall therefore now enquire whether *Iron* will suffice to give it this Tincture with *Gall*: If so, then another Spring that passes through *Iron* must receive a Tincture, but that it will not; *Ergo*, not from *Iron* does this take its Tincture.

There is an *Iron* Mine near *Barnsley* *Not Iron.* upon the Edge of *Darbyshire* where great store of *Iron* is melted, out of which runs a Spring of Fresh Water. This, I procured Mr. *William Cotton* who is Overseer of the *Iron* Work, to try if it would change Colour with *Gall*; he writes me, that it did not change the Colour at all: He sent me also a Glass Bottle of the Water, which I tried with *Gall*, but it changed nothing at all; neither being evaporated did it yield any Sediment: notwithstanding that he writes that he observed it to have something of the Taste of *Scarbrongb Spaw* at the Foun-

Fountain. He writes also that to make a further Trial, he staid till they had got a Pit at the bottom of the Mine, and so he caused a hole to be made under the bottom Stone, for the Water to fall into, and stand till it was clear, and then took and tried it, but it received no alteration from the Gall: He sent me also some of the Mine it self which I calcin'd, and put into Water, to see if that would give any Tincture by the addition of Gall, but it did not. So then, if neither *Alome* nor *Iron* will do it, then it remains that *Vitriol* is that that gives the Tincture, unless *Nitre* will do it; which neither he contends for, nor any one upon trial shall find to do it; and the same may I say of Salt, which is the Fifth Ingredient; from all which it follows that Mr. S. is in a grand mistake, to think that *Alome* can contribute to this Colour by Gall.

Nor Nitre.

Furthermore (as I have already made out) this Water being carried abroad, or left some while to stand in an open Vessel, will receive no Tincture from Gall, as also it will have laid aside its Acidity, which methink is an argument of some force

force to prove, that both these Qualities or Properties come from one and the same Cause (to wit) *Vitriol*: which I suspect to be in its volatile parts imbibed in the Water, and that the Sediment which remains after Evaporation is rather the product of the rest of the Minerals, than the *Vitriol*; for else I see no reason but while any thing of the substance of *Vitriol* is there, it should keep its Acidity, and also receive a mutation from the Gall.

And also I infer, that if that Tincture come from *Alome*, then certainly that which he by and by calls the Aluminous Salt, which he makes the essence of the *Spaw*, should give the Black Tincture to the Gall, so long as it remains in the Water. From what has been said, it also follows that ordinary Spring-Water takes no Salt at all, and but little of Sapor or Vapor or Odor from perfect Mineral of *Alome* or *Iron*: Indeed what it would do if it were made Corrosive by the participation of *Vitrioline Juice* I cannot so easily determine. From whence also it follows that if Minerals and Metals be
but

but in *Solutis principiis* or their Concrete Juyces, even Simple Spring-Water will be sufficient to imbibe them, without any necessity of *Helmonts Primum Ens*, which therefore I have with good reason exploded before; and if any doubt be made of that which yet I proved to be the opinion of good Authors, then here is the Juyce of Vitriol, which will not fail to do it.

A bad
memory.

Pag. 44. He tells us, *That the Medicinal Acidity or Primum Ens, which is the Solvent in the Water, has made a slight solution of a Minera of Iron, which being contempsered together, makes up the Body of the Spaw.* Is not this a Body of Iron then which becomes the Body of the Spaw, and that very thing which he denied *totidem verbis* (P. 20.) in the close of the Fifth Section? You know who had need of a good memory: But yet he minces the matter prettily, for he calls it but a *slight solution* of the Iron, and yet 'tis the *Body of the Spaw*. Let the wise Reader judge how these things will hang together.

Well!

Well! But he says further, *That if Spirit of Vitriol be powred upon this Water of the Spaw, it makes no alteration in it because of the similariness of parts between the Acid Spirit of Vitriol and the Acid Solvent in the Water, no more than fair Water mixed with fair Water.* Would not any man think from this very Observation alone (if there had been nothing else) Mr. S. had reason to be persuaded that this *Primum Ens* or Mineral Acidity was nothing but Vitriol, which I have proved to be the true Solvent (if we need any) in my reply to P. 3. since the spirit of Vitriol is as near of kin to it, being powred upon it, as Water is to Water; that is in plain words, they are both *Vitriol*; nor does the Experiment which he mentions take out any thing to the contrary, indeed it is nothing at all to the purpose.

(Pag. 45.) Thus farr, says Mr. S. I *Instab-*
assented, That an aluminous Salt from a ^{in Wri-}
mineral acidity had dissolv'd a slight touch ^{ing.}
of the Minera of Iron, and both dissolv'd
in the Current Spring of Water, makes up
the Spaw. What's here! Did he not say

H
just

just now in the fore-going Page, that the Mineral acidity and the Iron made up the Body of the Spaw; and now he says, there is also an *aluminous Salt* in it, why could not he have said so before? Is not here great instability in his Writing? Methinks he seems to write *Mente tremula* with a trembling heart and hand, being very unwilling and afraid to confess what he finds. Here it's plain he has granted *Iron* and *Alome*, and how far *Vitriol* I appeal to the Reader; I doubt not but to wrest them all out of him at length.

Yet notwithstanding his plain confession of *Iron* here, I appeal to all the Gentlemen that were present at the Spaw, if he did not absolutely deny it in our Conference there, allowing *nothing but Alome*, until we had done, that I shewed him the Cliffe, which (so much of it as is exposed to the Weather) is turned into a Cindar as *hard almost as Iron*, and out of which Mr. *William Cotton* (being then by) said he would undertake to make *Iron*; at which he seemed to be startled, in that he had denied it.

Con-

Concerning his *Quærie*, *How I would demonstrate those to be Vitrioline Spirits which were lost in the Waters carrying at distance?* I returned the same Answer which here I have already laid down, and need not to repeat; onely to that which I urged out of *Fallapius* I'll subjoyn the Opinion of *Dr Heers* in his *Spadaerene* (cap. 6. p. 44.) where he is proving the German Spaws to have imbibed Vitriol; *Conjecturam hanc dua rationes firmant, utraque nisi fallor evidentissima; &c.* These two reasons, says he, do evidently confirm this Opinion; One is because where such acid Waters are found, there is usually found something of the *Mingra* of Vitriol near at hand; and thus it is at *Scarborough* within Sixscore Paces of the Spaw where Vitriol sweats out of the Cliffe. His other reason is, from the eminent acidity that is in Vitriol, fusible to that which such Waters have imbibed, wherein he appeals to the Chymists themselves, and declares that no man but he that has a smelly Nose will presume to deny it. *Cujus nasum pituita obstruxerit, &c.*

(P. 46.) But an ingenious Person being by, asked the Doctor, Whether if the Water was sealed up in a Glass Bottle hermetically, and so carried abroad, it would be altered by carriage or no? He answered he thought it would; If so, says Mr. S. then it was not from any volatility of parts, because it was sealed up; and so not from the loss of the Vitrioline Spirits. It is very true I said so, and now upon trial I am sure it is so; nor is his consequence of any validity, but rather the contrary; for if there be any loss, it must be of the volatile parts, there being nothing else that can be lost; since it is supposed to be sealed; yet says Mr. S. it is not from the loss of Vitrioline Spirits, but it is an *Aporrhea Mineralis*; whether Vitrioline or Aluminous. It seems hereby that he is in doubt which of the two; but certainly I judge it from *Vitriol*, since both the acidity and the Vitrioline smell, and the tinging quality will be all lost together: Notwithstanding they will all keep longer, being sealed up in Glass Bottles, than in Wooden Vessels, and therefore I did advise in my

Book

Vitrioline
Spirits in
the Spaw.

Book that it should rather be carried in Bottles well stoppt, although in these also it will not keep long, but be subject to Putrefaction, and become whitish in Colour.

Nor let any man think it strange, that though stoppt it should yet lose its Spirits, since *Frambesarius* reports as much of the *Sauvenir* in *Germany*; for causing 12 *Lagena* to be carried but two dayes journey (which is near so many Gallons of English Measure, taking a *Lagena* to contain 6 Sextaries, and a Sextary to be 20 Ounces) and that in Bottles well sealed up, there wanted to every *Lagena* one Glass of its measure, which probably might be half a Pint, through the loss of the Volatile Spirits; and the Water became like Common Spring Water. Dr. *Heers* his words are, *Has nihil a communibus discrepasse, ut quibus singulis lagenis aqua vitrum decesserat, cum tamen apud fontem picata & subersa obserata lagena fuissent.* (Spad. cap. 5.)

And Dr. *Heers* affirms the same on his own Observation in the same Chap-

ter, *Decedit etiam*, inquit, *quantitati aqua*, nam vase optime obturato, nec ulla gutta dilabente, si fons hic alio transferatur minuitur: quia spiritum turgentia plus loci, quam eo privata occupare amant.



Thus it appears, my assertion is no Paradox, and indeed I do really think the main part of the Vitriol in this Water is its spirits, rather than any body of the Mineral it self, yet do think it has also something of the untipe juyce.

Mr. S. very disingenuous.

While I in my Book discoursed concerning the extracting the Minerals that are in the Water, I said (P. 10.) they may be found either by *DISTILLING* off the Water, or otherwise by evaporating the Water away in a Skellie over the Fire. He exclaims (P. 47.) of my Tools, that they are very rude and of a low rank (to wit) a Skellit, a Culinary Fire, but not a word of a Glass still, which an Ingenious Artist would have chosen, &c. Here I find constantly the young man in the same temper, owning nothing of Modesty, and knowing as little of Moderation. Is it not enough that I say they may be extracted *BY DISTILLATION*,



TION, but must I needs tell what Metal my Still is made of? I designing to speak to the capacity of all men, mention both wayes, and do particularly point out such Tools for trial of the truth of what I say, as are most ready at hand; however any thing will serve this man to rail on me, who walks excentrick to all the Rules of Reason. If the Reader please but to look into *P. 360.* he shall find him using the very same Tools, viz.

A Skellit and a Culinary Fire. Of the said quantity of Spaw Water I took about 2 Quarts, which having filtered, I put it in a SKELLIT, and boil'd away two thirds. What a strange spirit is this man of, especially to me, that he will not allow me that liberty of expression, which he takes to himself!

Yet let him do what he can by Distillation, so volatile are these spirits that they will yet be gone, as upon trial I have often observed. The same did *Doctor French* discover in his Distilling of the *Sweet Spaw at Knaresborough*, which though he did it in a Glass still, luted and closed up carefully in the ioynts thereof,

so as the spirit of Wine could not evaporate out thereof; yet so subtil were the Vitrioline Spirits, and so volatile, that he says they are sooner sublim'd than the Water, and do penetrate even the Glass itself, or the Lute, and he believes that neither Glass nor Lute can hold them. (P. 67.)

So again he lets flie, because I say the Minerals, when the Water is almost gone, do rise up in *Bulla's*, making a *bubbling noise* like the boiling of Alome, &c.—Our Naturalists observe that of all Minerals or Vegetables, Alome makes the greatest noise when it is boiling, as I have observed in those Mines at *Whitby*, which a Stranger would wonder at; and there being Alome in these Minerals, hence they *bubble* with more noise than ordinarily Minerals use to do, where that is away. Doctor *Jordan* a very learned Chymist, speaking (in *Chap. 7.*) of the boiling of *Vitriol*, has this very Expression, It ariseth up in *Bulla's* like *Alome*. Had I to deal with any Man of Reason or Ingenuity, who being unsatisfied, had undertaken this task against me, I had not

not met with such measure, nor to my knowledge did I ever read any man of the like temper.

As for what he saith concerning the *E-metick or Vomiting Property of Common Vitriol*, it is altogether extraneous to our Subject, and I have said enough to that point already.

And whereas he says, *I blush not to instance in Spirit of Vitriol; that We use it in Juleps and Cordials, and tis not Emetick* — I answer, Nor need I, since the main part of the *Vitriol* in this Water is the Spirit, as I have now proved; which is as much, yea and far more diluted with the Water wherein it is imbibed, than the force of the *Vitriol* is corrected by the vehement heat of the Fire, in the distilling of the Spirit: And what follows in that Section; wherein he runs a risque concerning the *Vomiting property of Copper*, is altogether pillaged out of *Helmont*, after whose Pipe I find him constantly dancing; using his very words as confidently, as if he were the Author himself, and also nothing to the point in hand.

(P. 50.)

(P. 50.) He returns to our Conference at the *Spaw*, and particularly about the *Nitre*, which I had affirmed in my Book (P. 13.) to be of all the Minerals the *most predominant*; shooting into Ice-sickles or *Stiria*, which is the peculiar form of *Nitre*; whereby it is distinguished from all other Minerals whatsoever.

Of Nitre
in the
Spaw.

I queried with the Doctor (says he) how he came to know that Nitre was an Ingredient, and the most predominant. — Here he forges a confused Narrative, which was never in my Heart, nor on my Tongue to say (but perhaps it may be a lapse of his Memory.) — I made it out from that Analogy and Resemblance that is betwixt the Minerals that remain after the Evaporation of the Water, and the Nitre that breaks out of the Cliffe within 6 or 8 yards of the Spaw, which is white like a hoar-frost in hot and dry weather, but is washt off by every shower of Rain; both that and the Minerals extracted out of the Water shooting alike in Stirias, and also agreeing in Taste.

But

But that this was Nitre at that time, he confidently denied ; He said indeed it was nothing but an *Aluminous Salt* ; but when I urged that *Alome* does not shoot in *Stirias*, and upon that very account that it could be nothing but *Nitre*, then he would have it to come from the *Air of the Sea* which has *Nitre* in it. I replied that then the whole Sea Coast should abound with it, which we see it doth not. Hence it follows that it can be nothing but *Nitre*, which proceeds out of the Earth, that is *exceeding Nitrons*. Neither yet is this *Nitre* discernable in every part of the Cliffe throughout, but runs in certain Veins, and much more plentifully near the Well.

That this is Nitre several learned Physicians have been abundantly satisfied, and those both of *London and elsewhere*; the shooting of *Nitre* into *Stirias* being as peculiar to that Mineral, as the form of any Plant is to all of the same kind. This and the rest of the Minerals, which are apparent upon this Cliffe, have put many Naturalists into no small amazement; which made Dr. Tenstall of Newcastle,
an

an Eminent Physitian and Chymist say, He thought it was the most fertile Bank, in the World.

Let him further know, that all the Earth about *Scarborough* is full of *Nitre*, from whence it is that the Meadows about the Town are more eminently fertile, than any other that I have observed upon the Sea-Coast; which gave too much encouragement to an Ingenious Gentleman a Friend of mine, to begin a Project there of Making *Nitre*, which for his own sake I wish had succeeded according to his expectation; but the truth is, it proved but an imperfect *Nitre*, especially that which is extracted out of the Water, and so in *refractis viribus*, and also joyned with the other Salts, which perhaps do enfeeble it more.

And yet I have observed many years ago this Sediment of the Water, having been laid aside in a cool place some dayes, to shoot into *Stiria's* half an Inch long, especially after Calcination, Filtration, and Separation from the grosser parts of the Minerals.

This

This I have exprefly touch'd on in my Book, and did alfo fufficiently urge it in our Conference at the *Spaw*, which yet prevailed nothing with this Gentleman, though it was abundantly fatisfactory to all elfe that were by; and yet it feems ev'n now while he writ this, he was of the fame mind; *That thefe Volatile Nitrous Particles*, as he calls them, which float in the *Aire*, are magnetically attracted by the *aluminous Salt* that is in the *Body of the Minerals*, extracted from the *Water*; as alfo by the *Mineral Earth of Alome* which is upon the *Cliffe*: and confequently that which is in the *Water* is nothing but an *aluminous Salt*.

And this is fuch a truth as he endeavors to illustrate (in *Seét. 4. p. 53*) in a long Difcourfe with feveral Experiments; after all which, and a large Harangue of hard words (fit only to breed admiration in the ignorant, and laughter in the learned) he gives us his definitive Sentence in fhort by way of Recapitulation, in thefe words (*P. 61.*) *The Efurine acid Salt having in its folution got a flight touch of a Vein or Minera of Iron, and paffing through*

through a rocky Mineral Globe of *Alome*, becomes specificated in an aluminous Salt, with which the Water of the *Quick-Spring* is impregnate, which makes the *Spaw* we discourse of.

Note.

Now if his Assertion, which by all those Experiments he endeavors to illustrate be false, as I am certain it is, and shall prove from his own Concession under his hand, then there needs no more to satisfy the World that I was all this while in the right. And if so, then is not mine Antagonist an able man indeed, that can thus draw *Quidlibet ex quolibet*, plainly to prove that which is clearly false? One would think almost this *Batchelor* were playing the *Sophister* again, intending to deceive the World with a *Fallacy*, which yet a Wiseman would have couched more cunningly in the premisses, and ta'n care to end with a *plausible Conclusion*; but just thus we have him 20 times in this Book building upon a sandy foundation, illustrating by far-fetcht Experiments, that which to every mans reason is evidently false, and from false and mistaken premisses drawing necessary Conclusions.

Let

Let me now remind the Reader of what we have been doing all this while. He denied all the Principles of the *Spaw* except *Alome*, and disputed (if so it deserve to be called) against me with hard and harsh language for asserting them. I think I have answered all his Objections, and fully proved them all to be there by sufficient Arguments of Demonstration, (which I willingly submit to the Judicious Reader.) He severely carps at many of my expressions which I used in my Book, which I have plainly made out to be the forms used by Learned Writers upon such Subjects, and particularly of the *Chymists themselves*; whom it seems he understood not. He throws dirt in my face ever and anon, while he argues against the four wayes (I mention) of a Waters imbibition of Minerals or Metals; which by the help of the very *Chymical Authors* themselves, who speak the same words, I have calmly and clearly wiped off. I did not think it fit to call in the Testimony of the Antients and Princes in Physick, whom I had cited before in my Book; since I see he so insolently spurns

The summe
total of
what Mr.
S. has
said.

spurns at them; but rather to convince him with the Verdict of the Chymists, whom he ought better to have understood, and cannot deny.

* I shall now open the Curtain, and let in more light to the Reader, that he may the better discern the temper of my Antagonist, and on which side is the truth in the Dispute that lies before him, and this *ex ore suo*. What needs any more?
Habemus reum consistentem.

Mr. S. his
Recantation.

In P. 20. Thus (says Mr. S.) we discard these two Pillars of his Spaw, viz. Vitriol and Iron, as to the Body of them. Now turn to P. 39. I do not (says he) deny Iron to be an ingredient. So again P. 44. This Mineral acidity pervading a Mineral of Iron, makes a slight solution of it, and being equally contempered together, makes up the Body of the Spaw. Now consider this Body of Minerals which is in the Spaw, is of an Ounce Weight at least, sometimes ten Drams in a dry Summer, as this last was (viz. 1668.) in 5 Quarts of the Water; and this is that which he styles a slight solution. And for Vitriol turn to P. 359. That I might (says he)
inform

inform my self more satisfactorily of the true Constituent parts of Scarbrough Spaw, I took 3 Gallons and 3 Pints, which I let stand; whose first precipitation was a Reddish Sediment, from which I filtered the Water, and this dried in the Sun proved to be a Red Earth, or kind of Ochre, OR RATHER TERRA VITRIOLII. So again he argues against Nitre from P. 50. to P. 61. asserting onely an Aluminous Salt with a slight touch of Iron: but turn to P. 360. and we have these words. Then I evaporated the clear filtered Water in Glasses to a driness, which I found to have an ALUMINO-NITROUS TASTE, or rather indeed MORE NITROUS, and would relent in the Air. So P. 364. Where you meet in our Hydrological discourse with the word Aluminous Salt, you are to read it ALUMINO-NITROUS SALT, OR NITRO-HERMETICAL SALT; this Salt if duly ordered is Crystalline, shoots into LONG STIRIAS. Here let the Reader observe in his Hydrological Discourse, where he is directly denying Nitre several times, and

I

says

☞ says its only an *Aluminous Salt* that is in the Water, what woful Nonsense it would be to turn the word *Aluminous* into *Nitro-Aluminous*, or *Alumino-Nitrous*, or *Nitro-Hermetical*. Certainly never any man writ at this rate before. Besides if a Galenist should talk of *Nitro-Hippocratical*, or *Nitro-Galenical Salt*, what a comely Canting would it be, and yet it would gingle as well as *Nitro-Hermetical*. *Risum tenetis amici*. After all this ranting what a woful case is this *POOR GENTLEMAN* brought into, that he must be forced to crowd in Nonsense. But it appears in this, and many more things that I have hinted at (and I shall find more before I have done with him) that to say and unsay is no strange thing with our Author here; right or wrong, Sense or Nonsense, he is not ashamed to tell what is in his heart.

Mr. S. in a strait.

☞ But yet if we observe him, he would fain fumble out an excuse to blind the unwary Reader, that he may not find his contradicting of himself; for he says (*P. 364.*) *Therefore what we said against Nitre in our foregoing discourse, is to be understood*

derstood the Common inflammable Nitre which is vulgarly used. But I pray will this go down with any man of ordinary understanding? What have we to do here with Common Nitre of the Shops, we are treating of Natural Mineral Nitre as it is here in this Water or this Earth, never known, or taken notice of, nor used, till I discovered it, and brought it into use; which indeed will not blaze in the Fire, perhaps because it is but in *Embryone*, not in *statu & perfectione*, or else so diluted with the Water, that it lies down or loses its inflammable property, as the *Vitriol* does the *Colcozar*.

Really I am ashamed that a man that pretends to Learning and Reputation, should write such palpable Contradictions, attended with so many gross circumstances of abuse to another, for asserting that which himself is forced to acknowledge for truth upon deliberate consideration; and I am as sorry to be put to this unpleasant task of ripping up a weak Brother's Infirmities, which I would (had I not been forced to the contrary) much rather have covered with a Mantle of Love.

So severely to reject *Iron*, *Vitriol*, and *Nitre*, and before his Book be done, to be forced to recant: To charge those things upon me as great faults, wherein himself can have no plea for it, but his rashness, contracting thereby a great guilt to himself: This is that, which (it seems) the liberty of the Press doth afford an opportunity to do, but yet that which no ingenious man or good Christian ought to take to himself. The best of us all have our failings, and its well if we live to repent. Ev'n *Salomon* left his *Ecclesiastes*, *St. Augustine* his *Confessions* and *Retractions*, and my *Antagonist* his *Epilogue* or *Recantation*.

However this with the aluminous part he calls (in his *Epilogue*) the Essence of *Scarborough Spaw*, and he undertakes (P. 365.) to tell what proportion it bears to the Water, viz. as 1 is to 128. A rare Arithmetician indeed if you will believe him; his Confidence in this is like all the rest, deeming himself to be *Autoritas*; for we must believe him without reason; as if all the vertue in the *Spaw* should lie in this Salt, and with this alone he pretends

tends to do wonders ; especially if we will but take in his Ternary. But I wonder why the Vitrioline Spirits which by his own Confession are not here in this Salt , or the *Terra Vitrioli* which he acknowledges he found , or the *Iron* which I proved , and he has confessed to be there , should be excluded from being of the *Essence of the Spaw* ? For my own part I do seriously profess , I never saw any considerable Cure done by the Water at distance ; and 'tis no marvel , since two of the principal Minerals are wanting ; *viz. the Vitriol* , which loses its volatile parts by Carriage , which should help its penetration into the narrow Meanders of the Hypochonders ; and the *Iron* , which is alwayes found precipitated in the bottom of the Vessels ; besides that in a few dayes it begins to putrefie , and so spoils the Stomach , and taints the Blood , and lays a foundation for the *Jaundies* or *Cachexia* , as I have made appear by good Testimony in my Book.

But here some may wonder how it comes to pass that Mr. S. should thus contradict himself (in his Epilogue) and so

Two Minerals of the Spaw are lost by Carriage.

Mr. S.
forced to
make this
Recanta-
tion,

plainly recant what he had said in the fore-going Discourse? To which thus, Mr. Samuel Johnston of Beverley (whom I mention'd before) a very ingenious Chymist, meeting him, shewed him the Red Earth which he mentions in P. 359. and told him it was no other thing than *Terra Vitrioli*, as also the *Nitre* which had shot in *Stiria's* above an inch long: This being matter of fact, he could not deny, especially seeing them both so plainly made out. Now his Book was then well-nigh printed, so as he could not recall it; and therefore was forced to bring it in an Appendix at the latter end, and study out words to blind the unwary and ignorant Reader. This Relation I have from the Gentleman himself, when yet Mr. S. is not so ingenuous as to acknowledge his Director (for he taught him the whole process that he lays down in the Epilogue) but on the contrary falls into a simple Rant (P. 361.) as if he was the first that has made so many separations of the Minerals. Yea and I can say he is the first that ever denied them of the Gentlemen of Art that ever came to the

Wa-

Water, and he is the first that ever I met with that canted and recanted at this rate: But the very truth is, I myself had done enough that way, having all the parts by me of several years keeping, though I thought it impertinent to make so many separations.

(P. 54.) He undertakes to tell whence the Saltness of the Sea proceeds, viz. *Opinion* From the Salt of the Earth, which With *whence* great dashes of Water passing through the *the Salt-* subterranean Channels, becomes dissolved *ness of* and carried into the Ocean, which has its *the Sea.* Minera from fossil Salt; from which also some Springs are saturate, as the Sulphur Well at Knaresbrough. Now let us turn to P. 303. and he tells us of a Circulation of the Sea Water from the Sea to the Heads of Springs by subterranean Channels; and these Springs are fresh, the salt of the Sea being deposited in the Channels. How these two Assertions can stand together I cannot discern; that the same Channels should convey a Salt into the Sea, and also convey the Sea Water to the Springs; here is a contrary Current in the same Channels, for the same

A Contradiction.

conveys Salt from the Earth to the Sea ; and lays down its Salt in its passage to the Springs. I confess this is above my reason to conceive, I shall leave it to the Reader to believe as he sees cause. For my own part I think both parts of his Assertion are doubtful ; though indeed it is bravely resolv'd of the Gentleman on the sudden, to find out the cause of the Seas Saltness, which has in all Ages put the most grave Philosophers to a puzzle. I do verily think that all the fossile Salt in the Body of the Earth (which we see is very rarely found) if it were dissolved, will not serve to supply a twentieth part of the Salt that is in the Sea ; the sixteenth part whereof being a Body of Salt, as I have tried at *Scarborough*, every Pint having about one Ounce in this our Northern Sea, and in the Southern Seas it is far more strong of the Salt : Besides the Peripateticks thought this came far short of an adequate cause, and thereupon they fly to the torrefaction of the Sun.

Moreover, if the Saltness of the Sea should proceed from the fossile Salt of the Earth, then being an extraneous quality to
the

the Sea, it would destroy the Fish of the Sea; as we see fresh Water made Salt by fossile Salt, kills all manner of Sea Fish as well as other. Hence it is that the Sea of the Plain called the *Salt Sea*, *Jos. 12. 3.* which has its Saltness from the Earth, (for it was formerly no Sea, but the Vale of *Siddim*, and has its Original from *Jordan* and the Sea of *Galilee*, which are both Fresh Water; besides that, Commentators and Travellers do unanimously report the Countrey about to be full of Salt-Pits) is observed to kill all manner of Fish that fall into it from *Jordan*; and is therefore called *Mare Mortuum*: so that I suspect Mr. S. is much mistaken in his assignment of the Cause of the Seas Saltness.

Again, As to the latter part of his Contradiction, viz. That the Sea Water is conveyed to the Heads of Springs by the Subterranean Channels; we must imagine that these Subterranean Channels must be sometimes 2 or 300 Miles long or more, which how that should be, *Credat Judæus Apella*: But this I shall reserve till I come to examine his Original of Springs.

But

A Con-
tradiction.

✧

But there is another thing which here I may not pass by : He tells us now, *That the Sulphur Well at Knaresbrough is saturate from fossile Salt*, and yet if we turn to P. 143. treating of that Well, he determines, *That a Salt Marine is the cause of that Sulphureous Spring*. I wish the Young Man would reconcile these Contradictions : In the mean while, till we understand the ground of them, it may suffice that we understand a little what reason there is in the man : Yet this makes me remember the Story that I read in *Quintilian* of *Didymus Chalcenterus*, the famous Grammarian of *Alexandria*, a man with Bowels of Brass, so they maimed him, because of his indefatigable pains in Writing; for he writ, says *Seneca* 4000 Books, 3500 says *Suidas* : Now one telling him an Historical Relation, which he disslik'd and disapprov'd as vain and frivolous, the party broug it out one of his own Books, and shewed him the Story; which made *Didymus* look blank. Truly the Old Man deserved some Indulgence, but for a Young Man to be so forgetful and contradict himself so often ;
to

to become a *Didymus*, or rather a *Disbymus*, double-minded, as that one and the same Book (nay within a few leaves) should bring forth *Didymos* Twinnes, one very unlike the other, as if they had not the same Father: I am very sorry to see it in any one that pretends to be a Scholar.

P. 55. *He passes on to St. Mungo Well at Cockgrave, which though to the touch is be extreemly cold, yet by an intrinsic sulphurous warming quality, it opens the Pores, &c.* I believe he never saw that Well, for if he had, he could not have any ground to think it had any thing of *Nitre* or *Sulphur* in it, but to be a Simple Water, and an excellent Spring, operating onely by its excessive Coldness; whereby it suddenly repels the Blood and inward heat to the inward parts, from whence it returns after bathing (while the Patient lies in a warm Bed) more strongly invigorated with Spirits, and so concocting the Crudities that were in the weak parts, increaseth new strength, and overcomes the lameness of the Joynts and the Rickets; concerning which I have
treated

treated more at large in my Second Edition of *Scarborough Spaw* (P. 104.)

In P. 55. He proceeds to speak a little of *Knaresbrough Sweet Spaw*, which he says is but languid of *Mineral Principles*, having but a slight touch of the *Minera of Iron*, &c. How the Doctors that frequent that Spring, will resent this, that the ancient reputation of that Spaw should be so blasted I know not; I leave it to themselves to consider their own Obligation.

In Sect. 5. (P. 59.) He falls to a Point of *Philosophy* as he calls it, which if any intelligent man reads, it will make him merry doubtless; especially in P. 58. Numb. 8. where a man would think he were a conjuring, if not killing the *Python* with a company of hard words: I refer the Reader to the Book its self, rather than make my own swell with Imperinencies. This brings to my mind that Epigram of *Antonius Muretus* upon a Pretender to *Philosophy*, who appeared to him to have an affectation rather of bombasting words, than any solid or grave matter; whom he calls a *PHILOSOM-PHER*

PHER rather than *Philosopher*, from *copi-*
es, *Fungus*, or some empty frothy thing.
Philosophum te vocas, & hoc te nomine jactas,
Præ te omnes reliquos ut nihil esse putes.
Nec tamen aut rerum causas & pondera
noſti,

Aut aliud nomen quo mereare Sophi.
Una tuis titulis addenda eſt litera recte,
Nec mihi Philoſophus, ſed PHILO-
SOMPHUS eris.

In P. 59. He contradicts expreſſy what before P. 4. he had ſaid concerning his *Ens Primum*, that it can take in but one Mineral; for here it will take in as many as he pleaſes (this Experiment he has *verbatim* from *Sendivogius Tract. 2*) concerning which I have there treated more at large; onely I cannot but obſerve his frequent Contradiſtions.

In P. 61. He undertakes to diſcourſe of the Vertues of *Scarborough Spaw*; thus many a man talks of *Robin Hood*, that never ſhot in his Bow. I dare boldly ſay, he knows no more how to manage that Water in Critical Caſes, than he that lives at *Rome* and never ſaw it. In this particular he is altogether *Mimical*,
 being

He tells of the Vertues of the Spaw.

being confin'd to what I have said in my Book, or what necessarily may follow there-from. He commends it indeed as very successful in the cure of many diseases, which yet cannot be upon his grounds; he owning as yet nothing but Alome, and a small touch of the Minera of Iron. I think it not impertinent (says he) to speak somewhat of its Vertues, and that the rather, because Dr. Wittie gave out, that I endeavour'd to defame the Spaw, in that I held it to be an Aluminous Spring. I think it no Defamation to say its an Aluminous Spring, but to call it so exclusive, as to the rest of the Minerals or Metals, as if it were onely so, and had not imbibed also Vitriol, Iron, and Nitre, is certainly to defame it; since first the rest are in it as well as Alome: and secondly it cannot do such Cures from Alome alone as we find it to do, now where they are all conjoyn'd together, by which it is become an excellent Composition that suits various Indications. And this his Grand Master Paracelsus (*lib. 3. cap. ult. de Nat. Aq.*) treating of these sorts of Waters; says, *Virtutibus ac dotibus admirandis*
 pra-

prædita sunt, pro natura Mineralium quæ in eis resolvuntur: Vos igitur, ex quo ortu & principio enascantur, sedulo examine: summum ergo studium esse debet, ut natura Lapidum, Metallorum & similium exacte teneatur: sic enim fiet ut Aquarum ex illis Genitarum conditio ac vis probe cognita sit. i. e. They are endued with admirable Qualities, according to the Nature of the Minerals resolv'd in them: be ye therefore careful diligently to examine from what Principle they come: for, says he, there is nothing more necessary than that the Nature or Property of the Stones, Metals, or Mineral Globes be exactly retained; for so may the condition and vertue of the Waters that proceed from them, be rightly understood.

Now the properties and vertues that *Of Alu-* are ascribed by Learned Naturalists to *minous* *Aluminous Waters* as such, do come far *Springs.* short of what we find in *Scarborough-Spaw.* Let us take measure from what profound *Kircherus* says of them (*Seet. 5.*) He tells, that they are very astringent and of an exceeding drying quality, (whereas

(whereas this Water at *Scarborough* is purging) hence it comes to pass (says he) that the places where those *Aluminous Springs* are, be usually barren; which *Theophrastus* also observed. (Now the grounds hereabouts are more than ordinary fruitful as I exprest before) *Unde morbis*, inquit, *qui ex nimia humiditate sive frigiditate originem ducunt, sanandis mirum in modum conducunt. i. e.* Whence it comes to pass that they wonderfully conduce to the cure of those Diseases, that proceed from the excess of Cold and Moisture. This is very well and true of the *Spaw*, but yet far short of what Cures are done by it; which I am not now willing to dilate upon, having treated at large in my Book upon that Subject.

And therefore it is certainly a disparagement to it, to say it is an *Aluminous Spring*, intending thereby to exclude all the rest, which are in it as eminently and undeniably as *Alome* is. If any man should say that Mr. S. is a *Grammarian*, he does not defame him at all, but if he intend it exclusively to the other Arts that he professes; as if he were not also a

Phi-

Philosopher and a *Physician*, I suspect Mr. S. would look upon it as a defamation, and not thank him for it: for being a *Grammarians* one may expect *Elegant Latins* from him, at least *true*: but its his being a *Philosopher* that makes him reason thus strongly, and a skilful *Physician*, which enables him to make many admirable Cures in Physick, and with wholesome Remedies, which in time we may expect and shall be glad to see.

But Mr. S. comes on with his *Noverint universi per presentes*: Let him and the World know, that in the *Esurine Salt* of *Alome* as noble medicinal *Vertues* are to be found, as in any other *Mineral* specified Salt whatever. Bate me an Ace quoth *Rolton*. In truth I see no Obligation wherein I am bound to believe him, I am sure *Paracelsus* gives *Vitriol* the preheminance by far, nor is this comparable being imbibed alone in a Spring, to that which has taken in either *Vitriol* or *Nitre*: nor do I think that any *Aluminous* Spring, as such onely, is to be compared to the *Sweet Well* at *Knaresbrough*, which himself says, has onely

K

imbi-

imbibed a slight touch of *Vitriol* of *Iron*.

Chalybeate Waters are scarce.

And now while I speak of *Iron* it brings to my mind what *Fallopins* says, who, it appears in all his *Observations* never found a *Water* that had imbibed *Iron*, though he does not think it impossible; but he heartily wishes for such *Waters*, *Utinam tales reperirentur, quia melius ageretur cum iis qui laborant affectibus renum & vesicae: i. e.* Because it would be very well for them that are subject to the Diseases of the *Reins* and the *Bladder*. To which I'll onely adde the Judgement of *Kircher*, *Aqua ferrea sive Chalybeata virtutibus ferri seu Chalybis imbuanur, ad obstructions hypochondriacas saluberrimis: i. e.* *Iron* or *Chalybeate Waters* have in them the vertues of *Iron* or *Steel*; and so are most excellent against the Obstructions of the *Hypochondres*, and the hardness or *schirrhus* of those parts, and the beginning of a *Drop sic*; as also they strengthen a relaxed and debilitated *Stomach*.

Of Vitrioline Springs.

And since this is a *Vitrioline Water*, as I have prov'd sufficiently against all his Ob-

Ob-

Objections, and at last brought him confessing as much, it were but proper to lay down the Vertues and Properties of those sorts of Waters; but that being done in part already, I shall therefore be very brief: I have prov'd already out of *Fallopins* and *Paracelsus*, &c. that a Water may imbibe *Vitriol* and yet not become Emetick, or provoking to vomit, and constant experience shews that its verified in this Water: besides hereby 'tis become of a penetrating quality, and so attenuating and cutting gross flegmatick humors, being also drying and leaving a moderate astringency behind it, and therefore good in all cold and moist Constitutions, and for expelling of Worms. Much of the same nature are such Waters as have imbibed Salt, save that they are not so piercing; but these having but little Salt in them, I shall pass it over without more words.

But because *Nitre* is of all the rest the most predominant in this Water, and himself has confessed it; I shall therefore bring in the Testimony of the profound *Kircher* (in *Cap. de Aq. Nitrosiss. Predomi-* *of Nitrous Springs.*

dominium Nitri Aquas potentes facit, &c.
i. e. When Nitre is predominant it makes the Water that has imbibed it powerful in operation; inables it to correct an ill habit of body, which such as are flegmatick are prone to; it looses the Belly, is good in the Diseases of the Nerves, and for such as are subject to Defluxions upon the Lungs, heals the Itch and other Diseases of the Skin, Cures the ringing of the Ears being dropped into them; and in a word makes it to be of an eminent abstergent property. So far *Kircher*.

Now this *Spaw* having imbibed all these five Minerals, must take its vertue from them all, according to reason and the Testimony of Learned Writers, as I have made out already, and I am assured it suits full well with the Experimental Cures I have mentioned in my Book; to which I refer the Reader, and shall say no more at present.

Next *P. 62.* he falls to treat of his five Digestions (which he pillages from *Helmont verbatim*, though he curtails the number, and corrects his Master; for *Helmont* makes six (*vide Helm. P. 167.*)
 from

from the pravity or deficiency of every one of which proceed several Diseases; whereas the whole Classis of Physicians make but three, viz. in the Stomach, the Liver, and the Solid Parts: I wonder indeed he did not make 50, for there is not any the least part of the Body, but if it be depraved in the Concoctive or Digestive faculty, so as it cannot separate the serous part of the Blood from that which is for its nourishment, Diseases may arise from it, which may disturb the whole Oeconomy of Nature, and breed Aposthumations and Tumors, according to the Nature of the Humor, and the Constitution of the Parts: Thus in the Breast may breed a *Schirrhus* or a *Cancer*, in the Hands and Feet a *Ganglion*, in other parts an *Oedema* or a *Phlegmon*, and from thence a *Feaver*, in the Joynts a *Gout* or some other *Lameness* or *Rheumatismes*, &c. but I may not digress upon this Subject. The truth is, in his describing of these Diseases, he erres very much through a defect in the understanding of *Pathology* and *Anatomy*; frequently confounding such as are nothing

of kinne, and all this in a canting form of Expressions, that all the Learned Men I have met with that have seen the Book, do laugh at.

*These
Spaws
are found
out by
chance.*

Then he undertakes (P. 83.) to tell what Distases the *Spaw* cures, and what not, and cites *Helmont*; but what I pray is *Helmont*'s Judgement concerning this Water, which he never saw & *Fallopins* says that the properties of all those sorts of Springs are found out by Observation, and doubtless he is in the right; now since he could have no observation or experience of this Water, his Verdict cannot be very Authentick: I have in my Book made out my Observations and Experience for near Thirty years, and that under the hands of the Persons themselves on whom such Cures were made; which give better ground of satisfaction to wise men, than all that Mr. S. can say; who can have nothing of his own Experience, as being upon my knowledge not much more acquainted with it than *Helmont* whom he cites.

Notwithstanding he takes upon him to give his Opinion of some of the matters
of

of fact, and particularly of an *Alderman* of *Hull*, whom I mention to have found Cure in an *Asthma*; But that this was a real *Asthma* (says he P. 94.) I fear the Doctor mistakes in his *Diagnosticks*. How civil this is in the young man to make himself a Judge of that which he never saw, and thus severely to become a *Cato Censorius* over me; I refer it to the wise Reader to judge. The truth is this *Alderman* had joyned Dr. *Primrose* and myself in this his Disease, to whom we prescribed Remedies according to Indications, which yet the Malady did in a great measure resist; so as after due preparation we thought fit to send him to the *Spaw*; where after a few dayes he found cure, and returned well. This being about 15 years agoe, and the Gentleman now alive and in health; and by his leave we both thought fit to call a Spade a Spade, and that Disease an *Asthma*. If it would conduce any thing to teach *W. S.* that best point of *Diagnosticks*, viz. to know himself; I could every day let him see some that have found exceeding much benefit by this *Vitrioline Water* in the *Asthma*, without his *Arcaus's*.

Of a Gentlewoman
in great
Debility
cured by
the Spaw.

Then he undertakes to judge of the Case of a Gentlewoman, whom I mention in a very Critical Point, who had been long in a wasting condition, bolstered up with Pillows, through constant difficulty of breathing; which he calls an *Asthma*, from the Obstructions of the Womb; and though he never saw her, yet he undertakes to tell what was also the Procatartick Cause of her Malady, viz. a Cold, &c. Was ever any man so bold, to be thus positive without ground? I wonder what *W. S.* sees by the enumeration of the Symptomes, that can persuade him to think this was an *Asthma*, for he may observe it did not seize on her *per periodos*, but a difficulty of breathing held her for a Moneth or five Weeks together; but it may be he thinks every difficulty of breathing to be an *Asthma*. It was indeed a violent *Dyspnea*, which oftentimes is a Symptome of a Consumption, and great Debility, and indeed that was the thing I most feared, for she was in a *Hectick*, in which Case purging is not safe; although not only she but many others that have been eminently *Hectical*, have

have found benefit by these Waters, and I can make it out with good reason too, if here it were my task, and I had time to enlarge.

He next takes upon him to descant of a *of a Catarrhe* Cure I mention in an Inveterate *Catarrhe*, which had resisted all other Methods, and here he takes occasion to let flie against the Galenists for some Assertions, which *Helmont* fancies them to make concerning the Causes of that Disease; from whom he pillages all he says, out of a Tract of his, called *Catarrhi Deliramenta*, after whose Pipe in every thing he dances throughout all the Book without farther Enquiry: As for himself it appears that he is a meer stranger to their Writings, and to say the truth, I believe he never read *Galen*, or any sound Writer that follows him; it is plain that he forges things frequently out of his own brain to impose upon the credulous Vulgar, on purpose to abuse them; dealing with the *Galenists* as the Heathen Persecutors of Old did with the *Primitive Christians*, put Bear-Skins upon them on purpose to bait them. He ought to remember

member the Ninth Commandment, and not thus ordinarily to bear false witness against his Neighbours. I find in *Pet. Faber's Agonistic*. That there were certain Laws to be observed in the *Olympian and Isthmian Games*, which they ever swore to observe; among others, That they would not seek for Mastery by fraud or deceit, but deal fairly, not bite, not kill, otherwise it was not a lawful striving, but was called *καταμαχία*, to use foul play, as being belluine and brutish; and against these Laws does Mr. S. constantly transgress. I could set him right as to their Opinions concerning a *Catarrhe*, wherein they speak a great deal more reason than *Helmont*, who deals not fairly in that he cites not his Authors; endeavoring to raze well-laid Foundations, but builds nothing himself. But its far from my design to write a *Pathology*, or to discourse in this place concerning the nature of Diseases. And it is also plain in Experience that the Medicines which the Galenists use in the Cures of Catarrhes, and their Method they go in upon their own *Hypothesis*, are eminently successful. (P. 101.)

(P. 101.) He takes upon him to discourse concerning the *Essence of Fevers*, together with their Cures, declaring against the use of Water or other cooling Drinks in Fevers, which (he says) are so far from abating, as they rather increase their heat, and exasperate their Symptoms: wherein he discovers that he is a meer Stranger to their Writings. Tea even the Cooling Ju-
 leps (says he) prescribed by the Galenists, yield very small help; if they do not actually prejudice Nature in the purifying work of Fermentations. Alas poor man! he understands not the use and end of the Galenists prescribing these Cooling Ju-
 leps, which are not onely to cool and to quench that intemperate heat of the Stomach, a thing most necessary to be done, and wherein the Patients find much relief; but also to correct (as they are fitted by good Artists) the Putrefaction and Ebullition of the Blood, and to help Nature to evacuate the Morbous Humors, by Sweat, Siege, or Urine, and also to fortifie the Digestions and refresh the Spirits; being constantly found to do all this, better than his Hot and Corrosive
 Di-

Of Cool-
ing Ju-
leps in

Diaphoreticks, made most what out of Poysons; yea and frequently to correct the scorching heat and *intemperies* they have caused, as upon mine own knowledge I can speak. Here we may see plainly an Emblem of Hell, for if any man fall into a Fever, and be at this Physicians ordering, his Case is like that of *Dives*, for he will not allow him a drop of Cold Water to cool his Tongue, though he be tormented in those flames: It's also very likely from what he saith, that Mr. S. is of opinion, that *Dives* was mistaken in calling for Cold Water to cool his Tongue, but that it would have inflamed him the more.

Here I would not be mis-understood: I commend Cooling Drinks in Fevers, as Juleps, Emulsions, or Water, but not excessively Cold, as these possibly may be in Winter: for the Stomach being a Nervous Part, may be offended with that which is intensely Cold, its Concoctive Faculty being debilitated; notwithstanding it may seem to be refreshed by it at the present, by dulling the Appetite and Sense of Thirst: and therefore in my

Pra-

Practice I order that these be aired a little to be made less cold, and so the moisture will penetrate the better, and the Eventilation by insensible Transpiration or Sweat furthered; as also they will pass down more speedily by Urine: and this is according to the advice of *Hippocrates* (*lib. de Usu Humidorum, & lib. 3. de Ratione victus acut.*)

As for what he says concerning Juleps ^{Of 502} and Cordials (P. 102.) *That they are* ^{1122.} *made up with Syrupes which clogg the Stomach by their sweetness.* This is a false Charge, wherein I may appeal to any that have occasion in Fevers to experience them: Syrupes in themselves are alterative, and prepared for several Indications, which we use *pro re nata* joyned to our Juleps, with several other things, as Spirit of *Vitriol* or *Sulphur*; which do both give a grateful Acidity to the Palate and Stomach, and resist Putrefaction; and all these according to the intention. I admire that in all things Mr. S. should be so meere a Stranger to the Writings of his own Authors the Chymists. *Znelfer* in his *Pharmacop. Regia* describes above

☆ 50 sorts of *Syrupes*, which are made up with Sugar or Honey, whose Vertues he also commends: even twice as many as any of our Apothecaries have, or need to have in their Shops. And *Schroderus* mentions three times as many in his *Pharm. Med. Chymica*: Yea no good Chymical Author that has writ *de Re Medica*, but he describes them and commends them. Besides I know that he himself doth constantly use them, and more of late than formerly, having had sufficient experience of the mischiefs done by his other hot Medicines, and the frequent Complaints of his Patients, than which nothing is more ordinary in our Ears.

Of Emul-
sions.

Moreover, It is an usual thing in Fevers for Patients to complain of Acid Humors in their Stomachs and sharpness of Urine, which are exceeding well corrected by *Emulsions*, yea and *Syrupes* too; the Sugar allaying their Acrimony, and hindring the Spurious Fermentation of the Blood, as I could make out at large out of the Chymical Writers themselves; to whom I find him so great a Stranger, but

but that I study brevity. *Vide Znuifer,*
and *Schroder.*

Pag. 103. He affirms, *That nothing of Cordial-*
is effectnal as a Cordial, but such as do *als.*
compescere flatum, viz. oppose or take a-
way wind. I pray let us consider that
Cordials are used in case of faintness at
the Stomach; now this faintness may pro-
ceed from several Causes, as in Fevers,
many times the preternatural Heat of
the Stomach will cause Faintness, in
which respect a Glass of Cold Water or
a Draught of Emulsion, or a Cooling
Julep or Small Beer will give present Re-
medy, yet I suppose that he will not say
these correct Wind. Sometimes this faint-
ness comes from Corrupt Humors where-
with the Tunicles of the Stomach are in-
farcted, in which Case a Vomit is a pro-
per Remedy and yields present Relief;
and yet he will not affirm that it opposes
Wind: so that it is not universally true:
Nor that neither of *Helmont, Nil cordi*
gratum quod Spiritui vini non sit nuptum.

(P. 104.) If we examine the Shop Cor-
dials, we shall find the main Pillar of them
all to be Sugar, witness their *Electuaries,*
Lochs,

Loochs, Conserves, Syrupes, Confections, Cordial Waters, &c. as that their very *Cordials* in conclusion prove burdensome to *Nature*. I have spoken to this in part already, shewing that we give not our Syrupes alone, so as by their lusciousness to clogge *Nature*, but diluted in their Vehicles, that the Sugar is the least part of the Medicine, and yet of singular use too. But I pray have not the Chymists all these forms of Medicaments too! I wish you would study your own Authors a little better, and not trouble the World with these frivolous Cavils, that savour of nothing but ignorance, or something that is worse. Is Sugar the main Pillar of all these Medicines? Certainly not so, there is onely so much put to them as may preserve them from corrupting, which when we have occasion to use, you know we mixe with severall other things; as dry *Cordial Species*, with which the Shops are well stored, wherein there is no Sugar at all; whereby we make our Compositions according to our Intentions, and answerable to what Complications we observe in the Diseases: and the success we have by

by these is such, as nothing but desperate malice it self can traduce.

Next he rants against letting blood in *Of Bleed-*
Fevers, as he does also in other places of *ing.*
his Book, but with what reason or arguments we shall by and by examine. This is certainly a most necessary and noble Remedy in Acute Diseases, provided there be a redundancy of the Humors and a *plenitudo ad vasa*, Age and Strength concurring, as *Hippocrates* saith (*de Rat. Vict. Acut. Text. 16.*) yea so many Cases there are in which Bleeding is a Remedy, that we have often occasion to do it; as in most sorts of Fevers, especially if there be a Putrefaction of the Humors; and not any Malignity: so in Hot Distempers or Inflammations of the Inward Parts, Pleurisies, Squinancies, Peripneumonies, Phlegmons of the Liver or Spleen, Violent Ophthalmies, Gowtes, and Arthritick Pains, Frenzies; Vomiting of Blood, Dangerous Wounds and Bruises by Falls, Vertigoes, Lethargies, Coma's, Suppression of the *Menses* and Hemorrhoids, Acute Pains what part soever they possess; in all these Cases it is accounted and assuredly

redly experienced to be a most present Remedy. But in all these, three special things are alwayes to be observed, according to the common Consent of all the Princes in Physick, viz. The Magnitude of the Disease, the Flourishing Years of the Patient, and his Strength and Habit of Body: To these I will adde the time of the Disease (for it's best in the beginning) the time of the year, the Countrey, the Patients manner of life in point of Dyet, and his Custome whether he has been wont to be let blood or no.

Ay (says Mr. S.) if the worst parts of the Blood could be singled out from the rest, then letting blood would prove a singular remedy, but the balsamick parts are carried forth with the other. To this I reply, that he grossly mistakes, to suppose that Blood is alwayes taken, because of bad parts that are in it. In a Plethorick Body we let blood, when we know there is no Peccancy in Quality at all, onely to lessen its quantity, which may be of singular use to prevent a Disease, that otherwise would come on; so oftentimes for *Revulsion*, as in several of the Cases I reckoned

reckoned up, when there is no fault at all in the Blood, and notwithstanding some of the balsamick parts (as he phrases it) go out, yet if it were not done, the life would be hazarded. But farther let him know that in Fevers, its ordinary for Physicians to observe their Patients so refreshed immediately upon the taking of a due quantity of blood, that Nature, that before lay groveling as it were under the burden of the Disease, becomes an absolute Conquerour over the Disease, and able to discharge its functions; (and this I have seen a thousand times) which could not be, if loss of blood were so great an impoverishing of the vital spirits as he speaks of.

But that which next he disgusts is, *The Of Reiteration of bleeding, as is the custome of some, not to excuse the Doctor, &c.* *Is it* *reiteration of bleeding.* Is it not strange that *W. S.* should take upon him at every turn to censure both my words and my actions; and that in my own proper business, wherein he is no way concerned? and I am certain not fit to be a Judge? I have already made it appear that he is an *Ignoramus in his own*

Authors, the Chymists, and therefore its no wonder if he understands not the advice of *Hippocrates* and *Galen*, and all the Ancient and Modern Writers in Physick, concerning this point of bleeding in Fevers again and again, if there be Indications. I can tell where several persons both in Fevers and other Diseases, have died for want of bleeding, and where by some it has been so long deferred, and yet afterwards done when it was too late; and so can *W. S.* if he do but *rodere ungues*: where I am assured if a Galenist had been called, there had been no danger at all. *Sed qui destinavit finem, ordinavit media.* Many like Stories does this City ring withal concerning some body, which I am not at present willing to relate, because they have nothing of Argument in them.

But (P. 106.) he goes on to aggravate; Hence they that recover under their hands, do it with much lingering and tediousness, because of the great enfeebling of their spirits by the loss of blood. — Why! then it appears our Patients recover under our hands, notwithstanding the bleed-

bleeding: Had they died, we had been sure to have heard on't. But will not any wise man rather think, that the lingering proceeded from the violence and deep rooting of the Fevers, that exacted the repetition of the remedy, than from the bleeding it self?

But (P. 107.) he comes to his Club-Law. Nay after a ternary of Bleedings, and as often Vomitings and Purgings in an *Obstinate Fever*, &c. One being asked what he would now do after all this? He answered, that unless he run the same round again, he was at a stand what to do further. The querying Person returned, that he did believe, if he run but the same round over again, from the beginning to the end, the Patient would by that time be cured of all Diseases. I desire the Reader to take notice that *W. S.* says all this was done in an *OBSTINATE FEVER*, and I pray will not an *Obstinate Disease* require an extraordinary process? Although I aver here is nothing that he mentions done in the Case, which any Artist in the World would not have done, and doubtless is frequently put to. And

this is agreeable to what *Hippocrates* counsels (*Aphor. 6. lib. 1.*) *Vehementioribus morbis vehementiora remedia*; viz. Great Diseases must have answerable remedies. Not that here I used any Medicines that were violent, but benigne enough, in all things suited to Indications, and the strength of the Patient; although (it seems) I did that which *W.S.* understood not, and so I believe I may have occasion to do again.

The Case
of Major
J. St.

Here I think fit to tell the Story that he aims at, which I have liberty to do, and name the Party if I please; but it's enough that many hundreds do know whom I mean. *Major J. St.* a Gentleman of note in *Yorkshire*, of a good habit of body, and in the flower of his age, did for more than a year labour under an *Anorexia*, or Loss of Appetite and Digestion, so as I have often heard his Landlady say, If she had been confined to his flint in eating during all the time, she must needs have been starved. At last the Gentleman got a Surfet, to which was joyned a most Violent Fever and a continual vomiting of what ever he took.

Now

Now was I consulted, and saw cause to give a Vomit, and let blood, and indeed to do many things, for the Correction of the violent Symptomes and the Cure of the Disease, which was not likely to be very easily done (as the Reader may guess) since it had been so long in taking root. In a few dayes the continual Fever in all its Symptomes abated, only being in Winter, it degenerated into a Tertian. This required a reiteration of the Vomit, and Bleeding and Purg-
ing, according as I saw cause, with several other remedies; whereby I daily gained ground, and had occasion to make very hopeful Prognosticks: although the Disease ran out unto two Moneths at the least. While I was thus acting for my Patient, this *Mr. Simpson* procured him-
self to be introduced one day to the Major, by a Gentleman who was an intimate Associate of his, and pressed the Major to take the advice of this *RARE CHYMIST*, whose Medicines he said would soon make a Cure. The Major told them both he was abundantly satisfied in what I was

I. 4 ; doing

doing, and bid Mr. S. take his time.

Here I could wish that all Physicians of a more regular stamp than this young man, that have taken their Degrees in Physick, or otherwise are legally licentiated, were not also too prone to undervalue their Profession, in begging Practice and rudely intruding themselves into other mens business, without any Call, y^especially in the latter end of a great Disease, which is the Custome of some. But at this Mr. *Simpson* was very much offended; and this is the business he aims at. Some few dayes after the Gentleman met me at the Majors Chamber, and asked me what I thought of the event of all, and what further I would do? I (knowing from the Major himself his design, and his good will towards me) told him I had good grounds of hope of recovery, and further (*it may be not so gratefully to him*) said, I would do as I should see cause *pro re nata*, even as I had done all the while.

And herein I followed the Counsel of *Hippocrates* (2 lib. *Aph.* 52.) *Si medico secundum rectam rationem facienti, cura-*
tio

ratio non statim succedat, non est tamen mutanda Methodus, quamdiu id restat quod a principio visum est. viz. If while a Physician doth act, according to right reason, the Cure does not presently succeed, he ought not yet to change his Method, so long as that remains, which was seen from the beginning. And whereas *W. S.* urges that all this while I gave him not one good *Diaphoretick* (*P. 175.*) though I am not bound to be accountable to him, yet on this occasion I will endeavour to set him right, and do assure him that during this course, I gave him three times as many *Diaphoreticks*, as I did of any Medicine whatsoever, as my Bills this day extant in the Apothecaries Shop do testifie, and the Patient himself now in perfect health doth witness.

Now you must know this Gentleman who would have introduced *W. S.* was a *Pseudo-Chymist*, who had wasted great summes of money in making Chymical Experiments, and a Principal Confederate of *Mr. Simpsons*, and had a great hand in compiling of this Book against me, as himself several times told the Major, while
it

it was in *feri*, bragging how much they would wound me by it; concerning which the Major is ready to give Oath, if there were occasion: But within a few Moneths after the Gentleman himself fell sick, and so physicked himself with *his own Chymical Preparations*, that he soon cured himself of all Diseases.

15

Upon the whole matter I admire at the folly of my Antagonist, that he would urge any thing herein as an Argument against me, seeing he could not but know, that the Patient soon after did thoroughly recover, long before his Book went to the Press. But why do I trouble my self to rectifie *W. S.* in his gross mistakes about the cure of Fevers, whereby he will know more, than hitherto by *all his other Reading*? save onely that I would let him know, that the Galenists (whom he so uncivilly spurns at) have good ground for every thing they do in the management of their business, though he understands it not; and that their endeavours are by the Blessing of God sound very successful, even in the most arduous Cases.

But

But at length *He grants that the single breathing of a Vein, or Artery, or Moderate Phlebotomy, may and doth sometimes help in a Fever*; I am glad the Gentleman is convinced now at length; its not long since he was of another mind, for about three years ago when he writ his *Zenexton Antipestilentialia*, he severely declared against bleeding, even in *Pleurisies*; there he says (P. 41.) that it is unnecessary in all Fevers, though if any, the *Pleurisie* may seem to plead a necessity but to whom & only to the Galenists, who know no better remedy. I am afraid some poor men paid dear for his Learning. But I wonder what he means by single breathing of a Vein; this is the doing it but once, and in a small quantity, which will not alwayes serve the turn, especially in the Disease we are speaking of, viz. a *Pleurisie*, in which Case *Hippocrates* advises to do it in case of extremity twice a day, and so on, according to the magnitude of the Disease and strength of the Patient, as I myself had occasion to do it this last week, even to 5 or 6 times; while no *Diaphoretick, Vegetable or Mineral,*

neral, or other Applications inward or outward, would take off the Pungent Pains, and that with excellent success. As for *Moderate Phlebotomy*, that may be, and yet be done more than once, even often, and be accounted but *Moderate* if the Case require it; and better it is to take often than too much at once.

(P. 108.) *I confess* (says he) *I never order Phlebotomy oftner than once in a Fever, and that with reluctancy bemoaning my self.* It seems Mr. S. is a very *PITIFUL PHYSICIAN*. Well! its enough he shall not teach me, but really I believe he has had many partners with him in that sorrow.

Nay further I have been with some Patients (says he) who in *Pleurisies* have undergone a *Galenical Method* of twice bleeding, &c. ready for the third time, and the Fever as high as at the first; whom after all this, I have cured with a *Diaphoretick Specifick* once or twice repeated; and sometimes one single Dose thereof has done the feat. — Speak out man where was this? Those that have good advantages to observe, and do well know Mr. S.
do

do desire the Reader to understand that here is an *HYPERBOLE*, which among all the other Figures of Rhetorick, with which his Writings abound, to the amusing of Common Readers, he thinks not fit to leave out.

Then he goes on and says, *That bleeding doth diametrically oppose the fortification of the Digestions and Vital Spirits, because it robs the blood of its treasure, surreptitiously stealing away its balsome, and debilitates the Vital Spirits, making them lower their Top-sails, &c.* — Even just so a Ship in a Storm over-laden with Merchants Goods, for the saving whereof some part is thrown over-board, is much injured by being robbed of her treasure, whilst after it she can hoyst up her Top-sail, when the Mizen was too much before.

(P. 109.) *As in Acute, so in Chronical Diseases, the frequent use of Phlebotomy is not commendable nor proper.* — If he had told what Chronical Diseases he had meant, I should probably have joyn'd issue, for some do necessarily require it, as the Case may be put, and others as
se-

severely interdict it. And therefore he ought to have specified his Case in all reason before he had condemned it. The *Scurvy* is a Chronical Disease, and doth require bleeding, if there be Strength and a Plethorical Constitution, and other things premised that are advised by the Learned. So is the *Consumption*, and the *Dropfie*, in both which Cases it is not tolerable.

Of Thirst in Fevers. (P. 110.) Mr. S. is Retrograde in his Discourse, resuming his Topick of Thirst, which of all Symptomes is most urging; which (says he) according to the Galenists proceeds from a hot and dry Distemper of the Stomach, to answer which Indication, they most frequently order cool and moist things; which if the cause of thirst were as they suppose, they would have a most facile way of Cure, in case that were true, Contraria suis contrariis curantur.— And then he falls on as his manner was before to inveigh against Cool Drinks. Well! Tis no great matter, Mr. S. will never hurt Physician while he keeps in this mind, and never profit Patient. I have already expressed the necessity and use-

usefulness of Cooling Drinks, and therefore I'll not further enlarge, onely do say, that if it be singly a hot and dry Distemper at the Stomach, its necessary to correct it with Drinks that are Cold and Moist, as the most present remedy, to wit, *necessitate medii*, although the end doth not alwayes presently follow the most rational means. And if it be the Symptome of a Fever, although it require other things which are not done *in instanti*, yet drinking Cool Drink is necessary too, lest through the omission of it, that Symptome of Thirst become more intolerable, than the Fever it self.

As for the Rule that he refers to, *Contraria contrariis curantur*. It is to be understood in a right sense. Nature it self is *Morbum Curatrix*, and therefore those things which do strengthen Nature, have a great influence into the Cure of Diseases, although they act not thus by any contrariety of quality in respect of the Disease; but from a similitude of property; for the supplying of Natures deficiency, which having now got new force

*Contraria
contrariis
curantur.*

force and vigor, arms it self against the Disease, and reduces its excesses into a Mediocrity; acting in every thing contrary to the Disease; and thus Nature works as an *efficient* and proximal Cause, and the remedy as an *instrumental* and more remote Cause.

Again; There are some Diseases that seem to be cured by their like; thus vomiting by a Vomit, and purging by a Purge, although these are not performed *per se*, but *per accidens*, by the taking away of those peccant humors, which being retent were the Causes of the Malady. But as for such Diseases as do consist in the excess of some one or more of the four first qualities, those are cured by their *Contraries*; thus a Hot Disease is best helped by Cooling, and a Cold Disease by Heating Remedies; and so I might also say of the other two, *viz.* Driness and Moisture; and this is agreeable not onely to the Doctrine of *Hippocrates* and *Galen*; and all their Followers, but even the *knowing Chymists* assent thereto; and *Paracelsus* goes this way, who treating of the solution of Metals (*Traict. 2. cap. 8.*)

Hec

Hoc (inquit) ad differentias Metallorum attendi debet, ut si Morbus a calore sit, Metalla frigida assumas, si a frigore calida. That is to say, As to the difference of Metals diligent heed is to be taken, that if the Disease come from heat, you take those Metals that are cold; and if from cold, then such as are heating.

Onely Mr. Simpson is very hasty, for he says (P. 110.) *If Diseases be cured by their Contraries, then the Cure should be forthwith effected, even as soon as an answerable degree is applied.* I deny the consequence, for *nihil fit in instanti*; Natural Agents are not so quick and forcible in their Operation, nor are Patients so ready to receive impression, especially when the contrary quality to what it has already, is to be imprinted upon it; for there is a reluctancy arising from the contrariety, that hinders the instantaneous effect, which must first be overcome by the more forcible strength of the Agent, before the contrary quality can be stamp'd upon it; for which there is necessarily required a proportionable time, as in all these remedies which we call *alterantia*.

M

When

When our Blessed Saviour wrought the Miracle upon the Blind Man, *Mark* 8. 23. upon the first use of the remedy he had not a perfect recovery, but only gradual; seeing men as Trees. But after a further application his sight was perfectly restored, and he saw clearly; and yet notwithstanding the Miracle is not lessened. So may we judge concerning Natural Effects in the Cure of Diseases, that they must be gradual, and yet be good Cures too; especially if we consider, that it is not so much a small peccancy in a single quality (as suppose Heat, and consequently Thirst in a Fever) which we are to alter, as an *intemperies* in some remote parts, or in the Humors which contribute towards it, and must also be corrected, which must necessarily be by a reiteration of the remedy, and require time and patience; and these intentions are excellently well performed by the Cooling Juleps of the Galenists.

But notwithstanding all this severity we have seen in Mr. S. against these Cooling Drinks and Juleps in Fevers, yet in the next Page, upon more serious Consideration

sideration he *commiserates* the poor man, and allows him some Drink to quench his Thirst, and blames those that with-hold it, for want of which (he says) the Fever becomes the more increased, and all the symptoms more exasperated. — Why! I know none that ever prohibited it but himself, who (P. 102.) said, *That Cooling Ju-
leps did more harm than good, and inflame
the Fever more.* I must confess I never saw any man so confident in asserting Contradictions in all my reading, as this Author is.

But he seems to allow Drink for the liquid quality to dilute and soften those burnt *sordes*, though it does not satisfy the Thirst, or else all things go the worse. — Is not here a contrariety of qualities betwixt the liquid drink, and the dry and burnt *sordes* that are in the Stomach, the very thing which he argued against in the fore-going Page? But I pray how came those *sordes* to be burnt but from heat, and doth not the scorching heat as much need its contrary to correct it, viz. cooling, as the driness doth moistning, especially since heat is a more active qua-

lity than Driness? And since the driness comes from the heat, why should he go about to correct the Effect, and let alone the Cause? Do not the Galenists far more prudently, who at once by their Juleps, &c. correct both the Cause and the Effect, and the intemperies to boot, which appears in other parts?

Of Diaphoreticks.

P. 112. *I have often wondered, the Galenists should not more seriously take into consideration the efficacy of Diaphoreticks or Sweating Medicines in Fevers, which (he says) is a most effectual means to quench Thirst and abate a Fever. — Really I cannot but much more wonder at his confidence, to impose upon the World, that which the meanest of men know certainly to be true; viz. That in Fevers the Galenists do constantly use Diaphoreticks, and more too that he little understands, and thereby are more successful than he. I am assured those in and about York, whom he has the best opportunity to know, have been ever wont to use them in Fevers, even before he understood his Primer, and do so at this day. Certainly it would better become this young man*

man to learn more Modesty, than thus magisterially to teach his Superiors, who in all their several Countries throughout the World, are Men of Learning, Honour, and Reputation, and know better Remedies and Processes in Physick than he, understanding both the Galenical and Spagyrical way of Practice, while it appears he is too much a stranger to them both; not well understanding the Writings of his own Chymical Authors.

Why! The very Cooling Juleps which we were just now treating of, do further Transpiration through the insensible pores of the Skin, and provoke Sweat many times to the quenching of the Violent Heat of Fevers, as I have found many times, when all his dry Diaphoreticks would do nothing.

Touching his rant about *Laudanum*, of *Laudanum*, a few grains whereof (he says) will quiet the Spirit for a time, quench Thirst, and allay Pains, and all this as a Diaphoretick. — That *Laudanum* doth all these as a Diaphoretick remains to be proved; *A quatenus ad omne valet Consequenzia*, if as a Diaphoretick, then every Diaphore-

tick should do as much, viz. quiet the Spirits, quench Thirst, and allay Pains, but every one will not do it; as his *Antimonium Diaphoreticum*, which next he treats of will not do it; and therefore it doth not this as a *Diaphoretick*, but as a *Narcotick* and by vertue of the *Opium*.

Of Anti-
monium
Diapho-
reticum.

(P. 113.) He proceeds to talk of *Antimonium Diaphoreticum*, which (he says) the *Galenists* are afraid of because its a *Chymical Preparation*, and that they give but 3, 4, 5, 6, or 7 Grains, while he dares give 60 without scruple. There is no doubt to be made, but he that is so big in his Writing, will be bold enough in his Prescripts, as we shall have occasion to observe by and by. This *Antimonium Diaphoreticum* is a Composition made up of Antimony, Nitre, and Tartar; now turn to P. 180. and he confesses that Antimony has in it an *Arsenical Sulphur*, which though it may be corrected by Fire, and made a harmless Medicine for Sweating, yet is it not necessary a Physician be sure that it be well done, and so rather keep within a safe compass in point of

of Dose, than be in danger of exceeding?

Besides, the Constitution of Patients is different, which he that is the immediate Physician is most fit to judge of, and not another, who understands not all circumstances that occur; and therefore it were better that others and particularly Mr. S. would forbear to censure that which they know not, but trust every man in his own business: Possibly Mr. S. might at some time look into an Apothecaries Shop, and there might see into some of our Bills, where 3 or 4 Grains might be ordered for a Child, or for some very feeble Patient subject to Colliquation, where a Physician for reasons best known to himself, had prescribed some small quantity of this Medicine, increasing his Dose with another sort of *Diaphoretick*; but what is this to him to tell the World of it?

Moreover, *Schroderus* (who is a Learned Chymist) accounts the Dose to be from 10 Grains to 25 at the most. (*Pharm. Med. Chym. lib. 3. cap. 18.*) though Mr. S. amounts to 60. But especially

cially its considerable what the acute *Zuelfer* says concerning this *Antim. Diaph.* to wit, That what way soever it be prepared, it will in time from the Air contract a dangerous malignant quality, which may cause oppression at the heart, fainting and vomiting; and so become not so safe to be given inwardly. (*Mantis Hermet.* P. 800.) Is it not therefore needful, that we should be careful how we use this Chymical Preparation, and by all means so to do it, as it may be safe and yet successful? Now this Medicine is used in Malignant Fevers or otherwise, when we would provoke Sweat; but if it be not well prepared and purged from its *Arsenical Sulphur*, what woful work would there be, if instead of sweating the Patient should fall into vomiting or purging. *Ay hnt* (says he) *it is of my own preparation, and therefore I dare more confide in it.*—Therefore indeed he may the better give it, but the main Question is, Whether the Patient may the better take it? Besides, if *Antim. Diaph.* may contract a malignant quality from the Air, were it not safer to give it in a less quantity? and

and may not there also be danger, lest the *Acid Humors* in the Body should make it resume its Malignity as well as the Air? Upon the account of all which, let wise men judge whether acts more prudently, he that gives 60 Grains, or he that gives 8 or 10.

For further satisfaction concerning this thing, I refer the Reader to what I have to say in my Animadversions on the 195th Page of this his Book.

(P. 115.) *He proceeds to treat of what Diseases the Spaw at Scarbrough cures, viz. The Scurvy, Dropsie, Stone, Strangury, Jaundice, Hypochondriack Melancholy, Cachexia, Womens Diseases, &c. — I confess I cannot but wonder to see the confidence of Mr. S. who knows nothing at all of these things but by my Book, no more than he that lives at Constantinople, and has read my Book there. Indeed this is the onely thing wherein I am beholden to him, in that he gives me Credit, although sometimes he makes Comments which the Text will not bear, and by a multiplicity of foolish new-coyn'd words, doth obscure that (even) to some*
wise

wise and learned men, which was plain and obvious to Common Understandings.

But upon the grounds he yet goes on, I declare it impossible that the *Spaw* should have such Vertue as to cure these Diseases; for if we observe, he owns nothing of a Mineral property to be in it, but an *Esurine Aluminous Salt* (P. 116. Numb: 3.) Now whether we consider the properties of *Alome*, as I have instanced (in the 145. Page of *Scarb. Spaw* 2d Edition) or the Verdict of the most profound Authors concerning Aluminous Springs, we shall find it impossible that the *Spaw* should have any such Vertue, upon his Principle he rests on, as I have already made out in my animadversions on P. 61.

But to amend the matter, He would have it seconded by other penetrating Medicines of his own preparation. — Why! I can assure him, the Cures I mention, were done without any of his preparations, and the like probably may be done again, although not without some other helps sometimes, as the Cases may require.

(P. 118.)

(P. 118. He tells of a sort of Dropsie which he stiles *Anasarca*, which is a word (I guess) of his own coining, for he means *Anasarca*. He says, *They that are tapp'd for the Dropsie viz. the Tympany* (for he is speaking of it, in which Case doubtless he never saw any man tapp'd) *they let forth an almost insipid liquor; so that water which passeth from those that drink plentifully of the Spaw, has no Urinous Salt, and so neither Tincture nor Savour.*— Sure he never saw any tapp'd for the Dropsie, in that he says it is insipid, I have several times found it of a brown Colour and a brackish Taste. And if he will distill or evaporate away the water of those that drink of the *Spaw*, as I have done, he shall find a slimy Sediment, highly impregnated with an Urinous Salt.

(P. 119.) He tells, That *there are some Causes of a Dropsie, which will resist all Medicines, except the noblest of Chymical Arcana's.*— Really it's great pity he had not found those Chymical Arcana's when Robert Besford was in his hands in this Disease (of whom I made
men-

mention before) whom if he had let alone, he might probably have seen cured without Chymical Arcana's.

LUNAR
Pills.

(P. 120) He reckons up several of his Chymical Arcana's, which he counts highly of for the Cure of the Dropsie, among which are the *Pilula Lunares*, of which he confesses, he never found any considerable success, and for the sake of the *Aqua Fortial* he rather advises against. — I am much afraid poor *Beford* had of these his *Lunar Pills*, which he took for Chymical Arcana's, for his Complaint was of such an Heat and Corrosion in his Stomach and Bowels, as if he had taken his *Aqua Fortial* Spirits. But it's well he does confess his fault, and I wish he may reform, and not make Experiments of Poysonous Medicines upon the Bodies of Men, to the hazard of their Lives, in an Empirical use of unsafe and ill-corrected Mineral Medicines, imperfectly described in *Paracelsus* and *Helmont*, which he knows not either how to make or use.

of Hysterical Fits. (P. 128.) He proceeds to treat of the *Hysterical Fits* in Women, where he runs

runs (as almost in all things) such a riot in an unwholsome form of words, peculiar to himself alone, as who so will have the patience to read, shall find matter enough for laughter, but nothing that merits the least line of reply. *Satis est nominasse refelli.*

Only I observe he forges a Figment upon the Galenists, as if they should say *A False Charge.* that the Fits of the Mother do proceed from a *Windiness of the Matrix*, which he most scurrilously fancies to be *charged like a Gun and ramm'd*, &c. which I wonder he is not ashamed to have said, and exposed to publick view, in unfavoury words, which a regular Scholar, or Physician, or a good Christian would abhor to have written, and every modest Person, especially those of the Female Sex do abominate to read.

But besides this its utterly false, for no such thing was ever said or writ by any man that deserves the name of a Galenist, nor if you mark does he cite any of their Writings in the Case, neither indeed in any thing that he objects against them, but frames Arguments out of his

his own Brain . on purpose to traduce them.

In this business I'll refer the Learned and Judicious Reader to my late intimate Friend and Colleague *Doctor Primrose*, in that excellent Treatise of his *de Morbis Mulierum*, where he treats (in *lib. 3. cap. 11.*) of this Disease; he reckons up the Opinions both of the Ancients and Modern Writers, concerning the Causes of these Hysterical Fits, but not one syllable of *Windiness in the Matrix* to be the cause of them. At last he concludes of two principal Causes from whence they proceed ordinarily (*P. 207.*)

Frequenter itaque causa est seminis corruptio, ut in viduis & libidinosis Mulieribus, si Viri amplexibus fraudentur, contingit. And this he shews to agree with what *Hippocrates, Galen, Epicurus, Democritus, Rondeletius*, and others have writtten. Another cause which he assigns (*P. 209.*) is, *Quilibet humor in utero putrescens, tetrum venenatumque vaporem expirat. Id ostendit (inquit) quod vetulas etiam quasdam infestat, quibus nec seminis nec sanguinis superfluitas colligitur*

gitur: tum etiam eas qua bene purgantur, & Viri consuetudine fruuntur. And this also he shews to be agreeable to the Doctrine both of the Antient Princes in Physick and Modern Writers too.

I shall need to say no more, but refer it to the Ingenious Reader to judge of the Spirit of this Man, and who can be safe from blasting, while such a malevolent breath as this blows upon him.

(P. 132.) Mr. S. treating of the Green Sickness in Maids, says, it will not bend to the single help of this Spaw, &c. where little or nobody of a Mineral is found. —

Let the wise Reader judge whether this man understands what he treats of, that says this Spaw has little or no Body of Minerals in it, when five Quarts contain at the least an Ounce of Minerals, and in dry years ten Drams, while the usual Dose for Women in this Case is three Quarts of Water, and sometimes more.

And thus having examined what he has said concerning Scarbrough Spaw, together with several Discourses that hang thereupon, and particularly his
Ob-

Objections against the Rational Method of Physick, or the Galenical Way (as he calls it) I am content to submit all I have said to the Judgement of the Learned and Impartial Reader. I shall now follow him as close as I can through what remains, and that with what brevity I may, because I would not swell into a Volume.

Pyro-



Pyrologia Mimica.

The Second Part,

PAg. 134. He takes occasion to discourse concerning *Malton Spaw*, which I mention *P. 194.* in my *Book of Scarbrough Spaw*. The plain truth is, this *Spaw* he has as little experimental knowledge of as the other, having only saluted it *in Transitu, cen Canis ad Nilum*, and therefore he is but very short, referring to what he has said of the other; wherein if he had observed the like brevity, I believe he would have come off with more credit. What difference there is betwixt these two Waters, I have in few words expressed in my Book.

(Pag. 136.) He proceeds to speak of the *Sweet Well at Knaresbrough*, concerning which *Doctor French* has writ a

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very

✧ very ingenious Discourse at large, which he has illustrated with very many pretty Experiments, out of which our Author hath drawn abundance of his, which here we have crowded together oft times confusedly enough, and yet he owns not his Author in any of them.

(Pag. 137.) He says its but a poor lean Water, and thin of Minerals, and therefore perswades to intermix Salt of Steel with it; and he gives some directions about the drinking of it, all which might well have been spared, since Doctor Dean and Doctor French have writ copiously of that Subject, and laid open the Nature of that Water, and several Cures it has wrought, and given better directions to help the slowness of the Water, who both of them did a hundred times better understand that Water than he.

Sulphur
Well.

(Pag. 142.) He passes on to the Sulphur Well at Knaresbrough, which he saith hath a strong body of *Sal Marine* in it; now if we look back to what he said (P. 55.) he tells us this Well is saturate with *Fossile Salt*. I wish he would reconcile these Contradictions. But how is it
pro-

probable that this Spring should partake so plentifully of *Sal Marine* (of which there is the quantity of two Ounces in a Gallon of the Water, as I have found upon trial) what communication has this Well with the Sea, more than other Springs, it being 40 miles from the Sea, and how can he suppose that the Subterranean Channels should convey the Salt of the Sea *in puris naturalibus* 40 miles, and yet others be purged and defecated of the Salt that are nearer the Sea? for my own part I see no reason to believe it, and shall leave it to others to believe as they find cause. Besides if it should proceed from such a plentiful Fountain as the Sea, since the Salt is not left behind it in the passage it should necessarily have a larger Channel than other Springs, and so be a very plentiful Spring, whereas it is a very penurious one, and if I mistake not, voids not a Gallon in an hour. I therefore rather think it receives its Salt, from the Nature of the Soil where it bubbles, and that it has also imbibed Sulphur and Bitumen.

Metthink he might have contented himself with what the Authors aforesaid have said concerning this Well, to whom he has added nothing, save only an Harangue of impertinent discourse, as his constant way is, whereby he confounds both himself and the Reader, and disparages that Spring, *Affirming it not to be of much more efficacy, than so much Trencher Salt, dissolved in such a proportion of ordinary Water,* in P. 146. In opposition to which I could joyn issue with him, but I shall rather leave that to others, more concerned, to assert their Experiences, who probably will think themselves concerned to maintain the Ancient Reputation, both of this and the *Sweet Spaw*, which he has not a little blasted.

Of Hot
Springs.

In P. 148. He treats of the Original of Hot Springs, where he borrows largely from Kircher in his *Mund. Subter.* together with his Experiments, as also *Monsieur de Rochas*; at last he determines that they proceed from *Calx viva*, which Notion he has from a Relation I make in my Book (P. 80.) of an Observation made by a Noble Lord of this Nation,

tion, viz. the Lord *Thomas Fairfax*, of some heaps of a White Powder which he found sweat out of the Earth near *Bath*, which being put into Water makes it hot, as I my self did experience five or six years after his Lordship had taken it up, some of which I had from his Lordship.

(P. 158.) *He falls to make a Vindication of Chymical Physick, which (he says) lies under an Odium by the Galenists.* In my Judgment he might very well have spared his pains herein, there being no cause in the World for a Vindication, nor do I know of any man in these parts that ever opened his mouth against it. Indeed he and others stepping into the Practice of Physick four or five years ago, had a design to turn all the Practice of Physick in the City and County of *York* to the Chymical way, exclaiming in all Companies they came in against the Medicines of the Shops, which are prepared according to the *London Dispensatory*, established by the Law of the Land; after the same rate as here is expressed in his Book: This both my self and others of my faculty thought fit to oppose, not condemning Chymical

A false Charge on the Galenists

Medicines well prepared, which we all daily use, but maintaining the Ancient Honour, Reputation, and successfulness of the Rational Practice which he calls Galenical.

The Chymical Way we own as an excellent Appendix to the Noble Art of Physick, and if the Gentlemen had been but good natur'd and modest, I do confidently affirm they had in all things found a suitable respect from us all; but why they should go about to make Chymistry an Art of its own kind, and like a viperous brat to eat through the bowels of its dam, in designing to root up the Ancient and Rational Practice of Physick, which has in all Ages been successful and continues so to be in our hands, as with modesty I hope I may say, I see no cause for it.

Has not the Honourable Society of the Colledge of Physicians of *London* owned the Art, and appointed a multitude of Chymical Medicines in their *Pharmacopœia*, which suit variety of Indications? And had not they an Operator whom they encouraged for the making up of those

those their Remedies, till Death came, which made a *Caput Mortuum* of him? And had not they a *Laboratory* in *London*, till the Dreadful Fire made a *Calcination* of it; which now they are preparing to set up again? What cause then is there, that this man should complain thus, or that he should need to rise up in Vindication of that which no man opposes?

It is well known to the Learned that many Antient Writers have treated of Chymistry, as *Avicen*, *Rhasis*, *Albumazar*, *Haly*, &c. in Arabick: *Democritus*, *Myrpsus*, *Zosymus*, *Marcellus*, *Heliodorus*, &c. in Greek: and an abundance of Latine Authors, that would be tedious to reckon up for these two or three last Centuries, no man of learning or worth ever opening his mouth or using his Pen against it, although some are more affected towards it than others; and truly methink every man should be left to his liberty in that point, to use or not use this or that method as he shall see cause, without being imposed on or censured by another, so long as he

is faithful and honest in his business, as also learned and rational, and willing to give convenient satisfaction to others, and able to make it out by success.

Nay I could make it out if it were needful, that the most eminent profess Gale-
nists have spoken honourably in their Writings of this Art of Chymistry, and prescribed a number of Medicines so prepared, both out of the Vegetables and Minerals and Metals. As *Sennertus*, *Mercatus*, *Pareda*, *Rodericus a Castro*, *Horstius*, *Freitagius*, *Crato*; and of our own Nation *Dr. Glysson*, *Dr. Primerose*, *Dr. Willis*, *Dr. Wharton*, and many others eminently learned, both who have written and have not, whom I know to be Lovers of the Art, and the useful discoveries which we have by it: Upon all which account Mr. S. might very well have spared this Vindication.

No difference among the learned.

And as the Galenists approve both in their Writings and Practice of Chymical Medicines, so the most learned among the Chymists do use the Galenical. Thus *Zwelfer* has made his Comment upon the *Pharmac. Augustana*, and left one of his own,

own, which he calls *Pharmacopæia Regia*, which are as full of all sorts of Medicines, viz. Syrupes, Distilled Waters, Electuaries, Extracts, Pills, Powders, Cordial Species, Lohochs, Trochisks, Oyls, Ointments, and Cerates, as our *London Dispensatory*, and made out of the very same matter, viz. the Vegetables, though Mr. S. cries them down, saying (P. 161.) *That there are not above a score that are good for any thing.* Thus also *Schroderus* an Excellent Chymist has writ another after the same Method. Likewise *Hadrianus a Mynsicht*, so *Libavius*, *Renodans*, *Crollius*, *Hartman*, go this way, describing Medicines both out of the Vegetables, and Minerals, and Metals: all which we know and make use of in our Practice, at least so many as we approve of to be good and wholesome. And why may not this be done without reproaching one another?

Indeed of late some Controversies have been started betwixt some who call themselves Chymists and others, but in those it plainly appears the Chymists have

have been the Aggressors, and the other only defensive: Or else they have risen from some personal quarrel, in which otherwise and learned men on both sides have not thought fit to interest themselves, but have rather privately endeavoured to compose their differences, and so to keep the Peace in the Faculty. And even in these also (if I mistake not) the Chymists have begun the Controversie.

And thus it is betwixt my Adversary and me, while I had never disoblighd either him or any man else, nor meddled with any thing in Controversie, save only with the Dispute about the Original of Springs, which I modestly carried on by Argument, without any the least personal reflexion upon any man that had engaged in it, leaving every man to believe as he saw cause; and in treating of the Mineral Ingredients and Vertues of the *Spaw* was modest in all my Assertions; even then and therefore does he flie in my face with uncivil personal reflections, and takes thereby occasion to throw dirt in the face of the most Learned Physicians in the World, and the Universities, as
we

we shall see by and by: and then to make a Vindication of Chymical Physick as if it were opposed. And all this meerly to carry on a design of over-turning the Rational Practice, and advancing his own way of Practice; which whether it be so safe or no, I shall now examine, yet without the least intention to reflect either upon the Chymical Way in general, or any Learned and Candid Professor thereof.

He says (*P. 158.*) *That till within this ten or a dozen years this Noble Science hath undergone much ignominy.* — I have reckoned up a number of Authors who have writ in Commendation of it, and mentioned several in these our own dayes and Nation, who are Fautors of it; and therefore I judge there is no cause for this complaint. But if it has sustained any ignominy, it has proceeded either from the ignorance of such as were pretenders to it, but did not prepare their Medicines aright, or else from those that use them preposterously.

I grant that this *Noble Art* (which doubtless is more proper than to call it a
Sci-

Science) has got more reputation of late than formerly, and I wish it may never lose it again by the folly of its Professors.

(P. 159.) We see (says he) that in all Concretes whether Animal, Vegetable, or Mineral, there is a mixture of pure and impure, of gross and tenuious parts, &c. Yet as to medicinal use, its the pure, nimble, and spirituous parts of Vegetables or Animals, or the depurated fixt part, or the re-union of both after purification, which assists Nature against the Malady. —

Gross
parts not
unfit for
Medi-
cine.

First, I do not think that the gross parts are always impure, and the thin parts pure, but that even the gross parts may be as pure as the thin (and in some drugs are more useful than the thin.) Thus Water and Earth though they be more gross, yet are as pure Elements as Fire and Air, and equally joyned with them in the Composition of mixed Bodies. Had God Almighty made Man meerly a spiritual substance, I should have thought that he had been best fed and physickt with pure spirituous parts and quintessences; but having also a gross Body, and a capacious

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Stomach and Bowels, fitted to receive gross parts and furnish with Concoctive Faculties, whereby the Vertue of them for Diet or Physick are commodiously drawn out, I think the gross parts were as well let alone, and not taken from the thin parts, only a little fitted for Natures more easie extraction, as we use to do by Fire.

Thus we see our Bodies are well nourished with Flesh, and Corn, and Vegetables in their gross Bodies, whereas the Chymical Extracts, and Spirits or Quintessences of these, would soon feed a Man to death: And the like reason there is for Physick, wherein the gross parts are sometimes to be preferred far before their Spirits. *Rubarb* is an excellent Purge for Choler, and also astringent, the Chymical Spirit or Oil not so. Thus *Pepper* grossly beaten is better against Wind, and also the Decoction of Anise seeds, than their Chymical Spirits, by the consent of many Learned Writers.

And the Acute *Zwelfer* in his *Manifesta Hermetica* (P. 782.) prefers the Powders of Pearl, Coral, Harts-horn, &c.
far

Of Magi-
 stery of
 Pearl,
 &c.
 Not so
 safe as
 when un-
 prepared.

far before the Magisteries, and concludes
 with this Expression, *Hinc & reliqua*
Magisteria ex Corallis, Perlis, & con-
similibus Gemmis parvi pendo, imo penitus
rejicio; and *Platerus* says, That some
 things are better suited to our Natures
 when unprepared, than when they have
 undergone the Chymists Fire. Thus *Cra-*
to in his Epistle to *Monavius* cited by
Scholtzius (Ep. 163. (who was himself
 a great friend to Chymistry) taxes the
 Pseudochymists for spoiling many good
 Medicines in extracting their Quintes-
 sences (too long here to recite) and par-
 ticularly concerning the making of their
Magistry of Pearl, or extracting its
 Spirits with *Acetum Radicatum*; where-
 by the whole substance of the Pearl is
 corrupted, and becomes corrosive. And
 he tells of one *Casparus Logus*, who by
 taking this Magistry from a *Paracelsian*
 died, and being opened, the Tunicles of
 his Stomach were found black and cor-
 rupted: and the like he says happened to
 a *Marquess his Lady*, whose Stomach
 was eaten through with the poyson there-
 of. And yet this we know is an excellent
 Cor-

Cordial as its used by the Galenists in substance.

And of the same mind is the ingenious Mr. Boyle in several places of his *Sceptical Chymist*, as also in many other places of his Writings, particularly in his *Experimental Philosophy* (2 Part. cap. 6. p. 148.) *Metbinks* (says he) *those that practice as if Nature presented us nothing worth the accepting, unless it be cooked and perfected by Vulcan, might consider that Paracelsus himself oftentimes imployeth Simples for the cure even of formidable Diseases.* Besides the success that we have in the use of Conserves, Condites, Powders, and Compositions, made of these might satisfy any rational person, which is done with much more safety and gratefulness, than with Spirits and Chymical Oyls.

And whereas Mr. S. will have these Spirits and *purèr parts* (as he call them) to be re-united after separation, and put into other Vehicles; I think their own parts are the most proper Vehicles they can be joyned to, as being connatural to them, (I speak of Vegetables.) Indeed as for Mine-

Minerals and Metals, which are most what virulent and venomous, or else whose grossness renders them indomitable, and uneasy to Nature to extract their Vertues, doubtless a separation of their useful and thin parts by Fire or Salts, is of great use in them, and not at all to be rejected.

Mr. S.
a great
Herba-
list.

(Page 161.) Mr. S. acknowledges, *There may be about a Score of Choice Plants, which well managed with a skilful hand, may by their singular Vertues produce considerable effects, the rest are not (that we know of) of much use.* — If we take his Parenthesis in the singular number, perhaps he says truly, for it may be he knows not a Score, I hope he will not hinder others from knowing more than he, perhaps as many hundreds as he does Units, and how to use them when occasion serves.

Of keep-
ing up
a simpler.

(P. 162.) *What heaps of Plants (says he) by some Physicians are ordered to stuffe Diet-bags withal, whereas a few choice good ones might probably be more effectual?* I confess I do not at all approve of the Practice of some who make such laborious Bills,

Bills, which are ever so to the Apothecaries, and oft times to the Patients. Usually they are such as do least understand *Materiam Medicam*. Certainly Physicians should never put any Medicine into a Composition, which does not answer some indication.

Besides some Simples are *δυστάτα*, and have such a dissonancy betwixt themselves, as that they will not grow together, but the one destroys the other, and so it may be too in their conjunction in a Composition of Physick. I read in *Ernestus Burgravius* (his *Achilles Πάνοπλος Redivivus*) a Story which he has (Pag. 94.) out of *Barthol. Carichterius*, that if a Figge and the Berry of *Alkekengi*, (which we know are both innocent being used apart) be joyned in a Composition, they become a deadly poyson, *quod Cani propinatum eum faciet crepare medium*, which would burst a Dog. And he lays it down as a Caution to those that use to stufte so many simples together, which are oft times of contrary qualities; when perhaps a Simple well known, or a small Composition would better suit the

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Case.

Case. I confess I tried this, but it did not kill the Dog, only he purged extremely; perhaps they should be both new, and then probably it might succeed.

Then he goes on, and for several Pages together tells of the great use of Fire, for the extracting of several parts, as a *Phlegma, Spirit, Oyl, and Salt out of Vegetables, Animals, Minerals, and Metals, which no man ever doubted of*; for Art will easily separate all these parts: but to what purpose? concerning which we have treated already. But he says,

*Minerals
and Me-
tals poi-
sonous.*

(P. 166.) that all Middle Minerals or Marcasites and Metals are actually poysonous: And again Antimony, the Mineral Stone of Vitriol, Bismuth, &c. have venomous properties, that unless they be corrected by Fire and good Solvents, they do deny us their Medicinal Vertues, and rather actually impress their virulency upon our Vital Principles. Who can have a worse Friend than he brings from home? Is not this enough to make men startle at Chymical Medicines, for fear all his Art cannot correct their poyson? I acknowledge

ledge in the hands of a good Artift, ſome Medicines may be made out of theſe that are ſafe, but then they are to be diſcreetly uſed, ſince I have already ſhewn out of *Zwelfer* the danger that is in them of reſuming their virulency, even after a due preparation.

(*P. 167.*) He undertakes to answer the Objections which are made againſt this Art by the Galeniſts. — Why! I have already ſhown that the Galeniſts do not except againſt the Art, though perhaps they may except againſt ſome that call themſelves Operators therein. I do verily believe they are better friends to the Art of Chymiſtry than many that call themſelves Chymiſts, for they honour it by making whoſome preparations, and uſing them in due and ſafe proportions, and with ſuch ſucceſs too as no man complains of them; and therefore they have alwayes been improvers of it: whereas ſome of the other go to poiſonous Drugs, which its to be ſuſpected they do not prepare well, or cannot, and hence many miſchiefs enſue in their Practice.

*Galenists
are not
enemies to
Chymiſtry*

First (says he) They say the Chymical Remedies are Hot, which we deny, and he instances in *Antimonium Diaphoreticum*, *Bezoarticum Minerale*, *Cinnabar of Antimony*, none of which are Hot to the Taste.—What then I pray, may they not yet be Hot in Operation, in the Stomach and Bowels, though not in the Taste? There may be a Corroding Quality which may revive upon the access of the Acid Humors in the Stomach from that Drug, that to the Taste was not Hot, as even now I proved out of *Zwelfer*, concerning this very *Antimonium Diaphoreticum*; and the same I may say of *Bezoarticum Minerale*, which is also made out of Antimony, and sometimes with *Aqua fortis* (vide *Schroder P. 411.*) and so likewise of the *Cinnabar*.

Of Cold-
ness in
the Air.

From this he takes occasion to discourse of Cold, and the Cause thereof in the Air, making it to be a *Positive Quiddity*, to wit, if I understand him aright, a substance, and yet inherent in the Air: How this will stand with the Rules of Philosophy, it were well he had made out, which denies *Penetrationem*

Cor-

Corporum. Certainly Cold is rather a *Quality* naturally inherent in the Air, which it alwayes retains, unless by the reverberation of the Sun-beams in this lower Region, it be altered; so that if any thing happen to debar it from the Suns heat, that which was warm will soon be cool again, more or less, according to the prevalency and duration of those External Causes.

(P. 174.) He again *resumes his invective* against the Galenists for giving Cold Drink in Fevers, which he says *denotes their ignorance of the Essential Cause of a Fever.* — To discourse here about the Essential Causes of Fevers is impertinent, and it would be tedious: I shall only say what ever is the Cause, its necessary that violent pressing *Symptome* of Heat and Drought be regarded, without which there will be foul work. But to this I have spoken already (*ad P. 102.*) well Mr. S. take your Course, and so will the Galenists, you are pertinacious in your Opinion, and I shall not further endeavour to undeceive you. The Galenists cured Fevers before you were born, or *Paracelsus* either.

either, from whom you fetch this Notion, and you see daily they do so still. It's to be feared this Opinion of yours (for I cannot call it Judgement) will cost many a man his life.

It's very strange to me (says he) that their daily Observation doth not convince them of the folly of administering cooling things; they cannot but see that no good effect comes thereon. — They will still trace the same road, though they be lost for it both in their reputation and otherwise. — How now! I am jealous it was the Midsummer Moon when this was writ; for but a leaf before he was talking of the Suns coming into the Tropick of Cancer, which perhaps might have some influence upon his Pericranium; or is it that τὸν ἀγλαυάτα ἀνὰ τὸν ἡλιον περιτρίβει?

Sir, If the Galenists had no better reputation than you, they would certainly have very little. I wish you had spoken out, and told the World what are your Observations concerning the Galenists success in Fevers, even those among whom you live, or in other Diseases. Hitherto we have heard of nothing to their disho-

dishonour. I know some Learned and Note.
 very Observant Gentlemen, that are well
 enough opinionated of the Chymical
 Way, that seeing the success of the Ga-
 lenists and Chymists so different, have
 seriously professed, they would not ven-
 ture their Lives in the hands of such Chy-
 mists as they know, especially in a Fe-
 ver.

(P. 175.) *They will bleed twice or thrice, and purge as often, and yet scarce will they order one good Diaphoretick.* — Mr. S. I see in all things follows the Machiavellian Rule, *fortiter incusa, aliquid barebit.* We had this before. Certainly he has an ill Memory, and a worse Method, or else we should not have such frequent and frivolous Tautologies. I guess he levels again at the Case of Major J. St. (mentioned *ad P.* 107.) whom in an Obstinate Fever as he styled it, which held out above two Moneths, I did let blood and vomit and purge, several times, but I did also give him thrice as many Diaphoreticks, which did operate very well, and so (I think) were good; which my Bills in the shop this

O 4

day

day will testifie, and all this with eminent good success: only I suspect it sticks on his Stomach, that his offer of his service to the Major was rejected.

(P. 176.) *I sometimes indulge* (says he) *the Feverish Patient with a Glass of the richest Sack he can procure.* — Ay like enough, hence the woful experience of some; although to say the truth, the Citizens of York are grown so wise, that they are not willing to own the Toleration.

*A rare
Experi-
ment.*

But to confirm the truth of what he here asserts concerning hot things to be useful in Fevers, he tells of an *Experiment made upon himself in a Colical Distemper, together with a Feverishness that accompanied it; how that by the use of some hot Medicines, and particularly of Elixir Proprietatis he found benefit*; where tis worth a laughter to read in what cleanly words he expresses himself, which I am not willing to repeat. — I like this well indeed, let him make Experiments on himself, I am resolved he shall not try his Skill upon me. But I pray is not this bravely confirmed, from a little intemperate

perate Heat or Feverishness (as he calls it) which was meerly symptomatical from pain, and that a Cold Cause, viz. Wind, to argue therefore it is most proper in a violent Fever? — If Mr. S. catch a Fever in earnest, and manage it according to his present Opinion, I'll tell him his fortune; he will become *Felo de se*, and forfeit his Goods and Chattels to the King.

I can tell where one that vaunts himself a Chymist, came to a Physitian at *Malton*, who was himself also Chymist enough, and in a Fever (which before that seemed to be in its Declination) gave him a Dose of this *Elixir*, and some *Diaphoretick Pills*, as he called them; which immediately inflamed the Blood and Spirits, so as that his nearest relations at this day say, that it appeared to him, immediately upon the taking of them (to use his own expression) as if his Eyes would have started out; which the Gentleman feeling, cried out while he had life of the acrimonious heat of the Medicines, and declared that if he recovered that sickness, he would leave that pernicious way
of

of prescribing, and fall into a more wholesome Practice. But alas! a day or two ended his life, leaving his Friend to practise upon himself.

(P. 178.) He says; *That notwithstanding Chymical Remedies are accused to be smelling too much of the Fire, yet the Fire is no less useful for the preparing of Medicines, then for the Cooking of Meats.* — What's this to the Objection, which respects the Empyreuma, or Corrosive Quality; or Nidorous Taste, which they draw from the Fire, favouring many times more of the Fire, than of the Simple out of which they are made; whereby they inflame the Stomach and Intestines of the Patients? For such violent Heat of the Fire produces that out of the Simple, which was not in it before (even like a Man upon the Rack, whose torment makes him oft times utter that which was never in his heart) and this it doth according as the Simple is capable of enduring the Fire. But it is not onely the Mineral Medicines which Patients complain of in this Point of Heat, but also the ordinary way which some Chy-

Chymists use in prescribing other sharp and hot Medicines. However what force of Argument is there here, to argue from the use of Fire in Cooking of Meats, which we see makes them more easie to be concocted, while yet they contract no Empyreuma, or Nidorous Heat? The Galenists speak not against the use of Fire, either for the preparing of Meats or Medicines, but use it as much as is needful in them both. But I can tell of some whom he calls Galenists, that have too much cause to find fault with some mens hot Medicines; whereof Patients make oft sad complaints, calling for their help to correct the corroding heat, which they find from some Chymists Practice.

O you my Learned and Worthy Brethren of this City of *York*, you are my Witnesses, How often have all of you and I, both joyntly and severally, heard the sad complaints of many in this point, and been called to correct that scorching heat, which had been the sad effect of Chymical Practice, when many times it has been too late, or not possible to be
cor-

corrected? Yea this whole City of York rings with stories to that purpose, which as yet I am not willing to relate, without a further provocation.

But at length I suspect this man will challenge Cookery to be a point of Chymistry, and so forbid the Galenists to eat or drink any thing that is wholesome. It appears indeed if it were in some mens power, they would soon tie up our Chaps.

He says, *There is an acrimonious virulency that adheres to many Vegetables, as well as Animals or Minerals, and therefore the Adepts correct all poysonous Plants, Animals, and Minerals, by that fiery Solvent, the Alkahest.* — This *Alkahest* I suspect he has not yet attained to, I am sure better Chymists than he have not. But I desire to be as charitable as I am bound, I do verily believe Mr. S. knows very few Poysonous Plants, or wholesome either, at least never corrected any, to make them safe for inward use. I am sure it were better he should endeavour to know such as are wholesome, and let alone such as are poysonous, whose venome

nome tis to be suspected will still remain, when he has done what he can.

(P. 180. He confesses *Minerals have an Arsenical Malignity, and particularly Antimony has its Arsenical Sulphur, which Fire and Salts do correct, and make it an innocent and harmless Diaphoretick*. — Really if he have any Credit, it will make men startle, for fear he cannot with all his cunning correct them. Is there not great reason to be careful, how we prescribe *Antimonium Diaphoreticum*, when he himself confesses it has in it an *Arsenical Sulphur*? What need the Galenists or any body else urge the unsafeness of Chymical Medicines? *Ex ore suo*.

The Corrosive Oyl of Antimony, and also another Menstruum almost as strong as itself, though they be very corrosive, yet when mixed together — becomes a white Powder, which proves to be an innocent Diaphoretick, of which (he says) he has frequently given four and twenty Grains. — Now turn to P. 188. and there he confesses, *This Oyl of Antimony is a most desperate Corrosive, even beyond Mercury Sublimate* — and yet he brags he gives it

it with another as strong as it self, inwardly unto 24 Grains. What a daring man is this? when Nature lies groveling under a Violent Disease, its like to be well helpt up, with such a Medicine? Sir, The Galenists use no such Poysons, they coast not in the least upon any thing that is *Arsenical*.

Mr. S. his
Tools

But let us further observe his Tools he works withal (P. 181.) *Mercury Sublimat*, *Aqua Fortis*, *Butter of Antimony*; who will henceforth dare to take this man's Medicines? *Qui potest capere, capiat*. Just such Tools as these did his Grand Master *Paracelsus* use, even *Arsenick*, which (he says) is *Venenum summum*, a desperate Poyson; whereof he confesses a Dram will kill a Horse and yet *ignito ipsum cum Sale Nitri, sic Venenum esse desinet*, *hujus si libras decem sumas, nil damni senties*. To wit, Do but fire it with Salt of Nitre, and then it ceases to be Poyson; so as if you take ten pound of it, you shall perceive no harm. (*Defens. 3. de Scrip Novorum Receptorum.*) Believe him who list; but thus we see these are both of a Litter.

It's no wonder if Patients complain of the

the corroding heat of this mans Medicines. Henceforth let no man make doubt concerning the Mineral Medicines of some of the Chymists, especially of this mans, who uses such Tools. He has here discovered so much as all his Complacites will scarce thank him for.

Are these his innocent Diaphoreticks, that arise out of such desperate poysons? O ye my Countreymen consider this and avoid your danger. It's no marvel if Nature run out of Doors in a sweat, when it has got such an Inmate. Are your Minerals so virulent and poysonous, and your Tools such as these? Why Mr. S. either the world of Englishmen will believe you, or not. If not, then you have lost your Credit; if they do, then you will lose your Practice; till they be satisfied that you are fallen into a more wholesome Way.

It is no wonder indeed that *Paracelsus* his Patients died usually within a year or two, as *Monavius* expresses in his Letter to *Dudythius* cited by *Scholtzius* (Ep. 194.) He says he had often heard from Gentlemen of good repute at *Basil*,
where

where Paracelsus lived, who were not ashamed publicly to attest it, *Quotquot Paracelsus ille magnis morbis, remediis suis Vulcaneis, aut ut ipse vocat Spagyricis, liberavit, eos ferme, intra annum, aut saltem paulo post interiisse, ut ut se egregie sanitati restitutos existimaverint.* That though he seemed to have performed great Cures by his Medicines prepared out of the Fire, yet almost all of them died within a year or more, notwithstanding even the Patients themselves did think they had found excellent Cures. And he observes very well in the same Epistle, that which is also agreeable to our own Observation in these dayes, that Chymical Medicines do rather cure the Symptomes than the Diseases, and do for the most part *aliquid malignitatis corpori imprimere*, viz. Leave some impressions of malignity upon the Body, which afterwards discover themselves. And further he adds, *Our remedies perhaps may be somewhat slower in their operation, and more nauseous in taking; yet this I may confidently say, they are far more safe than those fiery Drugs of the Paracelsians.*

For

For as I had occasion to observe before, *Note.*
 it is much to be suspected, that their Me-
 dicines, which are out of such virulent,
 corroding, and oft times poysonous
 Drugs, as he has here confessed, being
 given in substance, by lying in the Tu-
 nicles of the Stomach, and cleaving to
 the Bowels, may from the contact of
 the Acid Humors of the Body, resume
 their Ancient Arsenical Properties, as
Zwelfer says concerning *Antimonium Di-*
aphoreticum. And the same Author af-
 firms concerning *Vitriol calcined*, even
 till it has deposited all its sharpness, that
 yet being exposed to the Air, it will con-
 tract an Acrimonious Salt. (in *Pharm.*
Ang. p. 675) And may there not be as
 good reason to suspect it from the Acid
 Humors in the Body, as from the Air ?
 Now this is plainly apparent to every mans
 eye, that that which has deposited its
 malignity, may yet from the Air take it
 up again. Suppose a piece of very strong
 Tobacco dried in the Pocket, till it has
 lost all its strength ; lay but this in the
 Window when the Air is moist, and it
 shall become as strong as before, and

as uneasie to be taken by a new Beginner.

(P. 183.) *A strong Fire is as requisite in some Mineral Preparations, as a mild Fire to some easie Vegetable Separations, &c.* — Why! the Question in difference is not, whether a strong Fire be requisite for Mineral Preparations, but whether Mineral Preparations be necessary in Physick. If Mr. S. loses his Question, he gives up his Cause. Certainly the *Materia Medica* was full enough to answer all Indications in Physick, before this new process by Chymical Medicines was found out; and the Ancients yea the Modern Physicians that wave them, cure Diseases as well, if not better, than the Chymists can with their Medicines alone, without the other.

But Mr. S. goes on and says, *Would not a Cook Maid be accused of ignorance, if she intending to roast a piece of Meat, should lay it down at a disproportionate distance from the Fire?* — and then he tells how roasting of Meat is performed. — A piece of good Chymistry indeed, and of general use; I could wish they would
take

take his advice in the Kitchen, and let him partake with them in their Fees.

(P. 184.) *What are all the Spirits and Cordial Waters, but Chymical Separations of Urinous Spirits, by Distillation by the Fire? What are the best of their Purg- ing Pills, as Extr. Rudii, but a Chymical Extraction of Tinctures, &c.* — He still misses the Mark; no wise man that I know condemns Chymical Preparations, especially such as these, and a hundred more, which were in constant use in Physick, even for many Centuries before *Paracelsus* was born; for which we are not in the least beholden to any that ever assumed the name of Chymists, in contradiction to *Galen's* Method: and such Candor have Physicians ever since had towards the Inventors of such Remedies, that to this day we reserve to them the honour of their Invention, and call them by their Names, as is observable in the *Pharmacopœia*. But the Objection is still valid against such as the *Pseudochymists* do use at this day, and such as I find our Author here describing and administering.

What are the best Emeticks in the Shops, but such as are chymically prepared, as the infusion of Croc. Metall. and Mercurius vitæ? This is indeed very true, these are good and safe Medicines, and therefore the Galenists use them, and both found them out, and prepare them by their own hands, or their Apothecaries, and are not beholden at all to the Chymists for them; but yet the Infusion of them is safer than the substance. We use such as are safe, and leave the rest to you to make Experiments withal.

*A false
Charge.*

(P. 188.) He charges it upon the Galenists, That they cry out of Antimony as a dangerous thing, — and then the next Prescription shall be the Infusion of Croc. Metal. or Antimonium Diaphoreticum. — By this time the World well discerns that this man's Pen is no slander. How unworthily this is said against Gentlemen of eminent and approved integrity, I shall leave it to any Ingenuous Reader, who has made any Observations, since this matter of fact. Nor do I know whom he levels at, it had been but just for him to have cited his Author, and not charge
par

particular mens faults upon the whole party; for my part I never read nor heard any man cry out of *Antimony*, more than himself, who says it has in it an Arsenical Sulphur: and if upon this account it be dangerous, yet the *Infusion* may be safe.

What are their best Medicines for Worms, which they also frequently use against Venereal Diseases, but a Chymical Preparation called Mercurius Dulcis? — It is very true it is a good Medicine, but yet not the best; and therefore I told you the Galenists were no Enemies to Chymistry. My dear Friend Doctor Primrose says as much (*lib. 4. de Vulg. Error. cap. 1.*) *Mercurio dulci utimur innoxie*, We use *Mercurius Dulcis* without any danger at all. *Eadem siquidem est materia medica Pharmacopæi Chymici & vulgaris, ex vegetabilibus, animalibus, mineralibus, & omnibus tam benignis quam violentis, quæ in usum Medicum venire solent.* Both the Chymical and the Vulgar Apothecary have the same matter of Physick. And I have given this very Medicine an hundred times
to

to Children of three or four years old; but it's alwayes best to joyn it with some Cathartick to carry it speedily through, or at least to follow it soon with one, lest it lie in the Tunicles of the Stomach, and resume its corrosive property.

And yet great care must be had that this Medicine be opportunely prescribed, and in a due Dose (as indeed it is requisite in others) and therefore not to be meddled withal by every good Wife or temerarious Quack. *Sennertus* tells (*de Consens. Chym. cum Gal. cap. 18*) of an Eminent Physician of his acquaintance, who had often prescribed *Merc. Dulcis* to his Patients with good success, and yet had hazarded his life by the taking of it himself. And I know of another Learned Physician of my acquaintance, who never recovered after the taking of a Dose hereof, being then upon the brink of a *Consumption*. However this is not the Invention of the *Pseudochymists*, be it never so good, but was in use before *Mr. S.* was born.

And

And the like I may say of all the fixed Salts that we have in our Shops at this day; only I perceive whatsoever is prepared by any use of Fire, Mr. S. seems to challenge it, as if he and his fellows that call themselves Chymists had a peculiar property in it, as if they were the Masters of that Element, and others were only Intruders into their Freehold. I cannot but smile to see how this Gentleman and others do arrogate that Title to themselves of *the Sons of Fire*, which is that very Term that not only the *Greek Poets* but the *Hebrew Text* also give to Fire-brands. *Deus avertat omen precor.*

And the same is true also of the Essential Oyls of the Shops, which he reckons up, as *Rosemary, Sage, Cinnamon, Rhodium*, by all which it appears to the World that the Chymists do unjustly charge it upon the Galenists, that they are Enemies to Chymical Preparations. They only reject some of their new Arcana's, which are made out of Poysonous Metals or Minerals, of the corroding heat whereof their Patients do con-

stantly complain, and we are frequently called to correct; not that I think any thing worse because perhaps it is novel, and value error because of its Antiquity, but would have every thing brought to the Test, and owned or rejected as it is found to deserve, although any remedy may be better or worse as it is applied; distinguishing aright betwixt *Vitium Medicinae*, and *Medicantis*.

The summe of all is, The Objections remain firm, notwithstanding all he has said, against the *Empyreumatismo* or corroding heat that is in many of their new *Arcana's*, and more particularly against the use of hot things in all Diseases, which is too much the practice of some, as I am not willing to instance, whereby they become loathsome to the Palate, and hot and corrosive in the Stomach and Intestines; but on the contrary he has been forced to confess (and I suspect to his damage) that which the Vulgar, not Physicians so much upbraid them withal; to wit the unsafeness of that way.

of Method in
Physick.

(Pag. 192.) Another thing (says he) wherewith they impeach Chymical Physici-

ans

ans is, *That they are not Methodical in their Practice.* Here take notice that I am on the defensive hand, and am not charging the Chymical Physician for not being Methodical; I know there are learned men that understand well the Chymical Practice, and know both the Art of Composition and application of Chymical Medicines according to Reason and Method, for the Cure of Diseases, who deserve a great deal of Honour. But yet I do not think that every man that calls himself a Physician, is so indeed, nor yet every man that pretends to Chymistry, to be a Chymical Physician. He that through Ignorance or Singularity, dares not, or will not submit to a Regular Trial by the Universities, or otherwise, as by Law is provided, merits not the name of a Physician, but is a Quack; and such I am certain are some that call themselves Chymists.

Nor is it the curing of a Disease, *Cito, tuto, & facile*, that implies a good Method, as Mr. S. doth suppose; that may be done by a Woman who knows nothing of Method, nor how to answer Indications,

dications, which is the Rule of Method. To make a man a Methodical Physician, there must be a good Foundation laid in
Of Physi- Physiology and Pathology; the former
ology. takes in *Anatomy*, which treats concerning the Composition of a Mans Body, which is the proper Subject of the Art of Physick, and the Contexture of the parts, as they refer one to another; whereby an Artist is enabled to discern of Diseases that come from Sympathy and Consent of other Parts, and so to apply his Remedies accordingly. It respects also the Temperaments, the Humors, the Spirits, the Faculties of the Soul, and the *Animal*, *Vital*, and *Natural* Functions, with many other things that are *Appendices* to these. *Pathology* treats concerning Diseases, with their Differences, their Causes, their Symptomes, and their Signs; and comprehends those that are both universal and particular, and whether inward or outward: inabling an Artist both to judge aright of the Diseases, and also make true *Prognosticks*.

The Method of Curing.

Next comes in the Method of Curing, and this respects the Nature of all sorts of
 Re-

Remedies, and shews how they are to be applied to the several Indications, and directs the Art of Composition answerable to the Complication of Diseases. Now these Remedies are fetched either of *Vegetables*, or *Animals*, or *Minerals*, and all do equally belong to the Art, and are to be accounted the *Matter of Physick*, and the common end of these is the health of Mans Body.

Hence it will follow that of all Arts and Sciences that are in the World, Physick is the most Noble; First, In regard of the *Nobility of its Subject*, about which it is conversant, to wit, *the Body of Man*; and that not meerly as the subject of its consideration, for so it falls under *Natural Philosophy*; but of its *Work*. And secondly, in regard of the *Excellency of its end*, to wit *Health*, which of all things this World doth afford, is the most desirable thing, and infinitely to be preferred before all the wealth in the World, and indeed is that which sweetens all other enjoyments.

Now the Chymical Way of Practice is an *Appendix* to the third part of Physick,

Chymistry sick, and is no more distinct from the
 a part of Art of Physick, than if a man should
 the Art of speak of the Vegetable or Animal Way
 Physick. of Practice; and therefore if it be not

joyned with *Physiology* and *Pathology*,
 it is not to be called Methodical. And O
 that I might now have the Honour of
 being a Moderator in the Difference, that
 by some is started in the Faculty to the
 breach of the Publick Peace and Amity
 that ought to be among us. Why should
 we divide, while we agree both in
 the Subject and the End? Let not
 these young heads breed a difference a-
 mong those that are sage and grave.
 τὸ μακρὰν ὡς πρόχρον, as *Heliodorus*
 says in *Ethiop.* Young heads are forward,
 who if they amend not with more modest
 and amicable philosophizing, though I
 give not that hard Censure which others
 would give, yet let them be assured,
 there are some that will make bold to
 write this old Adage upon their Books,
 especially if they be like this: *Qui semel*
modestia limites transiit, nisi cito castige-
tur, gnaviter evadet impudens.

I shall now proceed (P. 193.) Mr. S. says, *The Galenists pretend to a Method in curing of Diseases:— But whether is not this Method more directed to the mitigating of the Luxuriant Symptomes, than to the immediate encountering with the Essential Cause of the Disease? —* I reply Diseases have their times, viz. their *Beginning, Growth, State, and Declination*, and several Symptomes proper to their several times; these while they observe; they arm against them, acting rationally, not only for the lopping off the Branches, but the stubbing up the Roots of the Diseases. As in a *Fever*, (in which he instances) those which he calls *Symptomes*, are as so many Limbs of the Disease, which being knit together and joyned to the inward Cause, make up the *Fever*, and that Method that he mentions to be used in *Phlebotomy, Cooling-Juleps, Emulsions, Frequent Purgations, Laudanum*, and the like, against the Symptomes, prove the Cure of the Disease. Thus *Phlebotomy* in a *Fever* that permits it, especially where there is a *Plethora*, and after due preparation as the

The Galenists strike at the root of Diseases.

bleeding.

Juleps.

Emulsi-
ons.

Purgings.

the case may require, and time give leave (of all which the Physician that is called to attend it is the most competent Judge, and not another) supposing as he says there be a fault in the Blood, as in Putrid Fevers, takes away some of the peccant humors and combust matter, and consequently *strikes at the root*. Juleps do not only quench the inward heat and driness by their coolness and moisture, but as they may be compounded by a knowing Physician, do correct crudity and resist putrefaction and malignity, and so *strike at the root*. Emulsions do correct the acrimony of the Humors, and open the Passages of Urine, furthering Nature's expulsion of the matter of the Disease that way, as also amend the intemperate heat of the Stomach and inward parts, and so *strike at the root*. Purgings especially if there be a *Cacochimia*, takes away the peccant Humors; and so also do Clysters, they both drawing down from the Head and Noble Parts, which oft times in Fevers are mainly affected, and so not only loppe off the Symptomes, but directly *strike at the root*. And any of these

these may be *reiterated* according to emergency of Indications, due regard being ever had to the age and strength of the Patient; for *ante omnia summe est habenda ratio virium*. So likewise *Upnoticks* *upnoticks* quench the ebullition of the Blood, and correct the acrimony of the Humors, assuage Pain and help Sleep, in which special care is ever to be had that they be seasonably and regularly administred.

Now *this Method* have all the Ancient and Modern Physicians of the World constantly observed in their management of *Fevers* (with such other things as they judged fit) and have been successful; yea even our selves at this very day have sufficient Experience of the commodiousness of *this Method*, and have *THOUSANDS* of Witnesses that have found the benefit thereof, in the restitution of their Healths out of *Fevers*, which malice it self cannot contradict or gainsay.

But if in this *Methodical* and I may say *Rational Process*, there be any *Remora*, either through the Nature of the Disease it self, or the Constitution of the Patient
that

that may hold the Physician tugged, and retard the Cure; is it likely to be amended by a *Pseudochymist*, especially by a *Tyro* in the Faculty, whose Tools are such as these by his own Confession, which are generally poysoned, or but newly separated there-from?

But he goes on (P. 193.) and says, *Unless the Theory of Diseases be certain and infallible, the Method of Practise grounded thereon cannot be satisfactory.* — How now Mr. S. will nothing less than *infallibility* suffice you? I must confess it is not to be found among the *Galenists*. The Art of Physick is not *ὑπερβολή*, but *ἐξ ἀνθρώπων*, not from Heaven, but from Men. Our Universal Theorems are such *ὑπὲρ τὸ πᾶν*, but not *κατὰ ἀνάγκην*. No Rule with us so general but it may admit of an Exception. No Process but sometimes it may fail us. Let us leave this Point of *Infallibility* to be discussed by the Divines, who have a Rule belonging to them that may undoubtedly challenge it, to wit, the *Holy Scriptures*, being given forth by God, who is infallible, and changes not; though sometimes the
Glosses

of infal-
libility
not found
among
the Ga'e-
nists.

Glosses that are put upon it are erroneous by reason of the *weakness* and oft times the *wickedness* of men.

It is enough for us, that our Art is grounded on sound reason and constant experience, though we have nothing of *Infallibility*, yea and the wisest of men we have to deal with are very well satisfied, while we act for them according to our Art, which they know to be *Rational*, though it be not *Infallible*; and therefore they do not charge it upon the Profession, or our selves as a defect, while we satisfy their Reason, though we may fail of success, but do patiently submit to that irresistible and inevitable Statute of Heaven, *Statutum est omnibus semel mori*. It is appointed for all men once to die.

I question whether Solomon was *Divine*, or *infallible*, in writing upon the Plants, and yet I believe if we had that Book, and did rightly understand it, we should have excellent Remedies, and perhaps find cures for some Diseases which now we judge to be incurable. The Scriptures were given forth by the inspira-
tion

tion of the *Holy Ghost*, to be a Standing Rule of Faith to the end of the World, and we expect no new addition or Revelation. The Art of Physick was found out by *men* through a large Tract of Observation for some thousands of years, and improved by *Reason*, and admits of daily growth and improvement by *Experience*; which even all the Learned Writers Ancient and Modern did expect to be: though they should not live to see it. I know none but *Paracelsus* that ever pretended to be *infallible*, and he does it plainly, and by this Objection of Mr. *Simpson* I suspect he does believe him; else why should he urge the want of *infallibility* in the Theorems of the Galenists, as an Argument against their Method?

Paracel-
sus claims
it.

Paracelsus in his Preface to the Book that bears the Title *Paragranum*, ranting highly against the Method of Physick delivered by the Ancients, extols his own to the Stars, in such a multitude of vain brags, as would be tedious to recite, and among others he has this Expression. *Ars ipsa contra me non vociferatur: Est enim immortalis, ac super fundamentum*

con-

*constituta tam solidum, ut necesse sit prius
cum terra ipsum cælum frangi & interiri,
quam ea emoriatur & intereat.* To wit,
The Art it self exclaims not against me,
for mine is immortal, and established
upon such a solid Foundation, that Hea-
ven and Earth shall perish and come to
nothing, before it fail or come to no-
thing. — And a little after in the same
Preface, he flies out into another proud
Rant, *Vos dico Parisienses, vos Mons-
pessulani, vos Misenenses, &c.* In En-
glish thus, *All you of the University of
Paris, you of Montpellier, you of Misi-
nia, you of Colen, and as many as live
within the compass of the two great Rivers
Danubius and the Rhine (which water
all Germany) you that live in all Lands
that are encompassed by the Sea: Also thou
Italy, thou Dalmatia, you Athenians,
thou Grecian, thou Arabian, thou Israe-
lite, I will not follow you; but you shall
follow me; nor shall any of you lurk in the
darkest corners of the World, whom the Dogs
shall not piss upon.* *Ego Monarcha sum,
&c.* I am the Monarch, and the Mo-
narchy shall be mine. This I manage, and
Q 2 will

will gird all your Loyns. Is it not I whom you nicknames *Cacophraustus*? *Hac vobis MERDA edenda est.* I'll leave this to Mr. Simpson to construe. But that I may yet further satisfy the World and Mr. S. concerning *Paracelsus*, I shall cite one place more of his own in his Preface to *Paragranum*, whereby we shall see what Christian temper he was of, where he insolently triumphs over *Galen* and all his Followers, and sends them all to Hell, and says that he had received Letters from *Galen's Soul* dated from Hell. His words are notorious, viz. *Si Galenus in Medicina immortalis fuisset, manes ejus in abyſſo Inferni, unde ad me literas amandarunt, quarum datum erat in Inferno, non essent sepulti. Nunquam, nunquam putassem equidem tantum Medicorum Principem in Podicem Diaboli involare debuisse; Et lucipsum ejus quoque Discipuli insequuntur.* Was ever any thing said like this in the World? and yet after this Pipe do some men dance.



Notwithstanding if we may trust *Kircherus*, who was certainly a hundred times more profoundly learned than he, he

he tells us (in his *Mund. Subterraneum*, Tom. 2. P. 279.) That partly out of curiosity, and partly out of his desire of sound knowledg, he read all his Writings with a scrutinious eye, that he might understand what was in them, that some men do so much admire and dote on; and he protests, after he had well observed all things he treats of, he found nothing (save a few things which were not his own) but meer trifles, affected forms of words, airy conjectures, and that upon trial all his Experiments were false. And he further adds, that all that he has writ which has any thing of worth in it, was stolen partly out of *Raymundus Lullius*, and *Arnoldus Villanovianus*, and partly out of *Isaac Hollandus*, and *Basilius Valentinus*, whom yet he rails on with most opprobrious language, as if all they said, had not been worth regarding. Upon the whole matter *Kircher* says he was, *Impudentissimus Nebulo*, *Scurra trivialis*, *Thraso insolentissimus*, *furiis infernalibus agitatus*, &c. These things I would not have instanced, but to clear it to the World, that as there is no infalli-

bility pretended to by the Galenists; so neither is it to be found among the Chymists. Let it suffice that we all do endeavour to understand the rational ground and Method of our Profession, and manage it with good Consciences, and then all wisemen will be pleased, what ever the event be.

But Mr. S. says (P. 194.) *I am apt to question whether any Methodist can give a solid satisfactory reason of the Operation of any one Medicine he gives, &c.* — Indeed I think he says truly, for I never met with any man more apt to question: It were more becoming for every man to endeavour after a well-grounded resolution to act in his own Sphere, then thus to trouble the World with needless and impertinent questions. Further every thing is received *ad Modum Recipientis*: It's possible a Methodist may give a *Solid Reason* for what he does, but whether that shall be *satisfactory to every one* that has a mind to cavil, or to Mr. S. I much doubt, since some men are of that temper, that they will never be satisfied with what another man says, nor approve of what he does.

(P.

(P. 195.) *If I should query (says he) why the Infusion of Stibium or Crocus Metallorum should operate by Vomit and Stool; and why the same if further prepared by Fire and Salts should operate by Sweat?* Of Mineral Vomits.
 and then he further supposes the answer would be given as to the emetick quality, That it arises from *Antipathy*. — I observe it's Mr. S. his constant way to frame both the Question and the Answer, and then to make his *severe* Inferences upon his own *Hypothesis*; whereas he ought in all reason to cite the Testimony of some solid Author concerning the received Opinion of the whole Party, before he gives his Verdict: Or rather he should read the Principal Authors themselves, and then make his Comment.

Nevertheless as to this Query I'll tell him my Opinion, yet not as the Judgment of all the Galenists, I leave every man to abound in his own sense. I take *Antimony* out of which the *Stibium* and *Crocus* are made by Calcination, to have in it an *Arsenical* poysonous or malignant property, which discovers it self if it be unlockt by Fire, otherwise it's innocent,

(as also several other of the Minerals and Metals) and to be abhorrent to Nature, but being calcined with Salts, it loses much of its Venome or Malignity, while yet it retains some property which is hostile to the Stomach. Now the liquor wherein these are infused after Calcination, imbibing the Odor and Vapor of the *Antimony* becomes troublesome to the Stomach, by which Nature is roused up to expel it; and so casts out the Medicine and the bad Humors together both upward and downward, as it best can get passage, and by its position enclines. Thus the vomiting and purging are not so much the proper effect of the Medicine, as of the Natural Faculties of the Stomach and Bowels (by the Chymists called *Archans*) imitated by the Medicine, which is performed by the help of the transverse fibres in the parts.

And of these two I take the *Crocus* to be the better, which is prepared with *Nitre*; now this Calcination being soon over, to wit, but a blaze, does not take away the *Toxical* property of the *Antimony*, but leaves enough to hold up its hosti-

hostility to Nature, and so to expel it through the Body.

After the same manner out of other of the Minerals, which are not so safe to be given inwardly in substance without some correction, are *Emeticks* made: as out of *Vitriol* is made the *Sal Vitrioli*, so highly extolled by *Angelus Sala*, with Calcination, Dilution, and frequent Edulcoration. As also the *Gilla Theophrasti*, and others of that name mentioned by *Schroderus*, in all which the poysonous property of the *Vitriol* is corrected by the Fire, and only a vomiting and purging quality remains.

So we see in *Mercury*, which though being *vive* it may be taken inwardly, because through the fluidity and weight of it, no stay is made by it in the Bowels, whereby it can put forth its *Arsenical* property; yet if it be killed, and so become *fix'd*, it is not so safe. Even out of it with a preparation of *Antimony* is made by Distillation, &c. *Mercurius vita*, which is a forcible *Emetick* for robust Bodies, working both upward and downward.

Now

of Mineral
Diaphoreticks.

Now if these preparations that I have mentioned to be made out of all these, be carried on by a further stress of Fire, the *Emetick* and purging property both will be deposited, as well as the poysonous quality by less Fire, and they will become *Diaphoreticks*, or Sweating Medicines. Thus with futher additions of *Nitre*, and frequent Detonation or Calcination and Edulcoration of the *Crocus* of *Antimony* or the *Regulus*, may be made *Antimonium Diaphoreticum*; as also there are fetcht out of it both Spirits and Oyls, that are for the same intention by force of Fire. And so out of *Mercury* farther corrected by Fire, and joyned with other Metals, are made *Diaphoreticks*, which are in use among some of the Chymists; as with Gold *Aurum vita*, and others mentioned by *Schroderus* (*Pharm. Med. Chym. lib. 2. cap. 15.*) as also other safe Medicines for various intentions, both for inward and outward uses. Nay out of *Arsenick* it self *Schroderus* says is made a *Diaphoretick* or Sweating Medicine, which he calls *Rubinus Diaphoreticus*, Pag. 499.

Now

Now the Vomiting quality having been so closely united to the *Arsenical*, and but newly separated there-from, I think the *Stibium* and the *Crocus* are much safer to be given in the *Infusion*, than in substance; because given in their gross powder, there might be danger lest sticking to the Tunics of the Stomach, they should bring on an *Hypercatharsis*, or too violent motions in vomiting and purging, not easie to be staid, to the hazard of the Patients life, as I have sometimes observed in the hands of Quacks; as also the danger there may be of resuming their former malignity from the Acid Humors of the Stomach.

And there is the like danger of the *Diaphoreticks*, even of that which is the very best of those that are made out of Minerals and Metals, and in most frequent use (to wit) the *Antimonium Diaphoreticum*, as I hinted before out of the ingenious *Zwelfer*, even from the Air it self, and more may it be doubted from the Acide Ferment that is within the Body. *Man. Hermet. P. 800.*

'A Modest
Offer.

But still the Query remains, *How it comes to pass that these do operate by Sweat?* Here I onely offer it to the consideration of my Learned and Judicious Brethren of the Faculty, whether or no it be probable to come from any *Alexipharmical* property that is in the *Antim. Diaphor.* while they weigh its Composition of *Antimony*, *Nitre*, and a small quantity of *Tartar*, which by some is added: Or whether Nature does not sweat rather from some other quality it has in it from the *Antimony*, which though it be not such as to provoke vomiting, yet some hostility remains, as that it may provoke Sweat. And it is not without reason to be considered of, seeing we see from *Zwelfers* Verdict, it will so easily resume its malignity. For my own part this is that which I ever doubted concerning it, and upon the serious deliberation I have of it on this occasion, I have still the more ground of hesitation:

Of other
sorts of
*Diapho-
reticks.*

And if it be thus, then I offer again to be considered of, whether *Diaphoreticks* made out of Vegetables and Animals, which have certainly an *Alexipharmical*

or

or Cordial property, be not more to be preferr'd, since we know how to prepare them so, as that they will not fail us, nor any ill symptôme can be suspected to ensue: such as *Radic. Scorzeneræ, Zedæaria, Petasitidis, Angelica, Tormetilla, Serpentaria, Scordium, Carduus, &c. Corda viperarum & Serpentum, &c.* as also those excellent Compounds described in the Dispensatory, as *Theriaca Andromachi*, or *Venice Triacle, Mithridate, Alkermes, London Triacle, &c.* besides several generous Waters distilled with Spirit of Wine. Upon the whole matter I also offer, whether this *Antimonium Diaphoret.* were not safer to be used in a few grains, till we be satisfied from whence it has its *Diaphoretick* property, and that joyned to other Medicines which answer the same intention, than to give a Dram at once, as Mr. S. brags he doth?

I say I am not severely positive in this, but do modestly leave it to the consideration of the Brethren of the Faculty.

But to proceed, Mr. S. (P. 197.) saith, *It would be very satisfactory to have been able to predict according to Rational Prognosticks,*

mosticks, that Scammony, Calocynthis, Sena, &c. would purge. — Really I think so too, but surely that was not to be expected from any man of limited reason, since there is no manifest quality in any of them to ground such a *Prognostick* on. The Vertues of Medicines (as also several other useful discoveries) have been found out by *chance*, when men thought not of it, but have been making Experiments on other occasions: And 'tis a good Providence of God that these and many more are found out, although we know not how they were found, nor by whom. But if any man shall happen to find out some new useful property in a Simple, or be able to make out some beneficial Compound Medicine, I hope both this present Age and Posterity will take care to let him enjoy the honour of it, in the mention of his Name. And though Mr. S. has designed causelessly to rob me of the honour and reputation (if there be any in't) of my discovery of *Scarborough Spaw*, with its usefulness to my Countrey; yet if he have any thing to make out in point of Art, I shall never go about to eclipse

eclipse it, but let him ride on with his honour, and thank him to boot.

(P. 20.) He says, *That by the Fermentall Venome of Drugs badly prepared, and unskilfully administred, incredible numbers of Vomits and Stools may happen, &c.* — Yea and though a Medicine be not venomous and also well prepared, yet if the Nature of the Disease and the Constitution of the Patient too be not very well observed, a *Hypercatarsis* may ensue, especially if the Body be enclined to a looseness, which sometimes happens, and is not very easily foreseen, or otherwise in a Colliquated or Consumptive Body, which from every small irritation of the Belly is apt to run like a Bowle down the Hill, though this is easily helped if the Physician be at hand.

(P. 202.) *I have known a man (says of Opium) so accustom himself to Opium, as that every Night he would take 10, 12, or 15 Grains of it without preparation, &c.* — The Turks by using themselves to it, can take a Dram, which commonly they do before a Battel, and that puts off all fear. And a Learned Gentleman and an eminent

hent Chymist of my acquaintance, has often in long Journeys given a Grain or two to his Horse, when he feared his tiring, which he told me made him hold out more lively.

In the same Page, *He seems to be fully*
Of Poyso- *satisfied from whence it is that some Vege-*
nous *tables are found to have virulent proper-*
Plants. *ties, which he grounds upon Kircherus;*
viz. from Mineral Arsenical Juices fer-
menting in the Earth, where such Vegeta-
ble Seeds are, which incorporating them-
selves therewith, become thereby the Au-
thors of such virulent fermental poisons;
whence (says he) Napellus, Hyoscyamus,
Cycuta, &c. take their virulency. —
 For my own part I honour Kircher, who is one of the most profoundly learned Authors this Age has brought forth; but I confess I cannot so easily *jurare in verba Magistræ*. For if it be so, how comes it to pass that all the Plants that grow out of one and the same turf or sod of Earth, have not the like Toxical property? Certainly it's rather from the Nature of the Plant it self, every Seed bringing forth according to its own kind, from the
 the

the Divine Benediction of the Protoplast, in what soil soever it is sown; for a transplantation into another ground will not amend it at all.

But Mr. S. goes on and says, *Since the true cause of the Operation of Medicines, and the knowledge we have of them, is taken from and grounded upon Experiments, and these Experiments are as likely to fall into the observation of those who are ignorant of a Method, as of those that are skilful therein; what advantage then hath a Methodist, whose grounds and principles are either found unsuccessful in practice, or much what contradicted by experience? —* Here he begs the Question, and determines that the Methodists are unsuccessful in their Practice; and perhaps some may be so, or any man in some thing: for as I have already said we are not infallible, but are in a possibility to erre; though there is a great probability we shall not, if we duly weigh the Rules of our Art, and the state of the Patient. However he that understands the rational Method, shall probably be successful, when the Ignoramus knows not what to
R do.

do. But further I perceive Mr. S. his aim is wholly directed to the operation of the Medicine, and what it will do, when certainly the Nature of the Disease and Constitution of the Patient, are as seriously to be respected as the Medicine; and then the Indications put the Physician to seek out a proper Remedy, lest *Andabatarum more*, he encounter blindfold with Diseases. And if a Physician go out thus fitted, his knowledge is well grounded, especially if he be backed with former experiences of parallel Cases, as a well practised and observing Physician possibly may: And thus his Judgment is not conjectural but certain, in respect of the operation of his Medicine, for though the first finding out of the virtue of the Medicine was by chance, yet he is become certain of it, and his application is rational.

Of success in Cures. (P. 204.) One reason (says he) why great Physicians are often so unsuccessful in their Cures, &c. Here again he begs the Question, supposing great Physicians to be unsuccessful, but if so, why does he call them great Physicians; unless they

they be eminently learned in the Theoretical Part, and so fitted for the Schools, as some may be who addict not themselves to the Practical: but then what success can be expected from mean fellows? Though the ability of a Physician is not to be judged of by success, yet an ordinary unsuccessfulness in Cures gives just ground to suspect his ability.

But at last he concludes, that he will refer it to the Judicious Reader, to consider whether Chymical Physicians are not the most likely (from what has been said) to cure Diseases best. And so will I let him use his reason from what has been said on both sides, and try by experience if he thinks fit, whether Mr. S. (for I have nothing to say to others) who calls himself a Chymical Physician, and uses such Tools as we have been told by himself, be like to cure Diseases happily, soon, without trouble, and debilitation of Spirits. I use here his own words.

But now Mr. S. proceeds to another Query (to wit) *Whether to be so accurate in the punctual observations of all the injunctions of the Schools, be altogether, or at*

all necessary to make a Physician cure Diseases more successfully? — Mr. S. would almost make them that know him not, suspect (by this Query) he were inclinable to be a Quaker, as if he would intimate that School-Learning were not useful, or as if the understanding of *Physiology* and *Pathology* were of no use in order to the curing of Diseases. I wonder whether Mr. S: when he sets himself to make a piece of *Latine*, does think that the accurate understanding and punctual observation of all the Rules of Grammar be necessary or no? Or whether the total ignorance or sleighting of the Rules will be a better qualification? Whether the sound understanding both of the *Common Law*, *Statute Law*, and *Book Cases*, does not much conduce to a Lawyers better doing his Clients business? Certainly he that best understands and observes the Rules of Grammar and Rhetorick, will make the best *Latine*; He that is most learned in the Laws will be the best Lawyer, and he that is most knowing in all the parts of Physick, will become the best Physician and most successful.

(P. 205.)

(P. 205.) *When I consider (says he) the tedious and almost inextricable Labyrinth, wherein young Physicians are commonly involved. How many great Volumes of Galen, Hippocrates, Dioscorides, &c. &c. &c. With a great many more they revolve? What tedious pieces of Anatomy of Velsingius, Riolanus, &c. &c. they peruse? How many unprofitable Discourses in the Theory of Physick are they engaged in? How many hundreds of Plants do they burden their Memory withal? What a jumble of Pulses? What a multitude of Symptoms? What Discourses of differences of Urine? and to confirm all this, what long Pilgrimages into Italy, and to the University there, do they make? — Does not now the Reader admire with me at the conceited confidence of this young man, to set so slight a value upon these profoundly learned Authors? Certainly had he read any of them whom he so tramples upon, he could not possibly have said this: It appears he is meerly autodidactus, and knows little of what these, or any other Authors in Physick have writ, being wholly wedded to his own Laboratory.*

R 3

These

So
He con-
tains the
best Au-
thors.

These Worthies whom he thus contemns, have writ Treatises full fraught with strength of Reason and Experience in the Art of Physick, as if they had been *Oribasius*, — inspired by God for the good of Mankind, without the reading and understanding of whose Grounds or Rules, it is impossible to cure Diseases. — *Anatomy* is with him an empty Study, for I find him ever and anon spurning at it; to which I have given some return already in my animadversions on this Book of his. What excellent improvement has been made of late in this Point of *Anatomy* by some of our own Countreymen, which with great thankfulness all learned men receive throughout the World! witness learned Dr. *Glysson* of the Liver, Dr. *Willis* of the Brain, Dr. *Wharton* of the Glandules, Dr. *Higmore* of a new Ductus in the Testicles, Dr. *Jolliffe* of the Lymphatick Vessels: So Dr. *Pecquet* of the Receptacle of the Chyle, and the *Lactea Thoracica*. The Milky Veins of the Mesentary by *Afellins*, besides other admirable Discourses on Variety of Subjects; and above all that most excellent use-

useful discovery of the Circulation of the Blood by the renowned Dr. *Harvey*. These and many more that refer to *Anatomy*, which I might recite, but that I study brevity, are entertained by the learned with singular applause, which yet Mr. S. calls unprofitable Discourses.

So the understanding of Plants he accounts *unnecessary and burdensome to the Memory*. Why! are not these part of the matter of Physick, and is it not necessary an Artist should understand his Tools? Herein it appears did consist a great part of *Salomons* Wisdom, which yet with him is but Foolishness.

Thus he quarrels at the Observation of *Pulses*, whereby we discern how the Vital Faculty is affected. Of *Symptomes*, by which we know the Disease, as the Lion by his Paw. At Inspection into *Urines*, which often, especially in Accute Diseases, give good hints, and denote to us what Concoction there is in the Veins. Of this Subject Dr. *Willis* has written excellently well. But upon the whole matter, I conclude this Paragraph, *Ars non habet inimicum nisi ignorantem*. I plead not for

that Customary way of the Quacks, who will conjure upon a Liquor in an Urinal, and I could wish we could perswade the people to believe, there cannot be so certain judgement made upon an Urine as they think on.

Next he spurns at such as travail to the Universities abroad for the improvement of their knowledge in this Faculty, saying, *That after their return home, they cannot certainly cure one poor Disease.* Here if by the word (*certainly*) he means *infallibly*, he is doubtless in the right; its enough *a priori* if they act according to probability, and this they may do if they understand their profession; and *a posteriori* while we observe the effect, its apparent some of them do certainly cure great Diseases. Are they the worse for their travail, for the advancement of their Learning? I think not, unless they leave their Religion behind them. Perhaps it is not necessary that men should travail in order to the understanding of Physick, our own Countrey affording advantages enough for it; but in this they have liberty and free-will; and I judge it absurd

fur'd to upbraid any Gentleman for his sedulity in that point. It may be some come home as wise as they went, perhaps scarcely so, yet others we are assur'd return very well accomplish'd. And this Testimony I must give on the behalf of some Gentlemen of the Profession, whom he has the best advantage to know and observe, that as to them its a false charge.

(P. 206.) *Young Students in other Countries* (says Mr. S) *commonly go along with a Learned Professor, to whom he frequently reads Lectures upon the Patients he visits, and doth it with such a grave Method, &c. which he unmannerly jeers at, — so as the young Students do verily believe, that none of those Diseases can come amiss to them, but they shall surely cure them all. But alas! When they come to matter of experiment in their Practice, they find they are mistaken, they are puzzled at every turn, &c. — they cannot perform the cure of any Disease, not so much as a whistow. — Yea Mr. S. have they such advantages as these, besides their Lectures in the Schools, and on the Plants in their*

their Physick Gardens, and in their frequent Anatomies, and are these to be laughed at, and accounted insufficient to ground young Gentlemen for the Art of Physick? What then shall we think of such a young man as never heard a Physick Lecture? Or if he did, it was before he understood the words of Art, so as the Lecturer must needs have been as a *Barbarian* to him; one that knows nothing of the Plants, *viz.* P. 161, nor ever saw (as we have reason to think) a Dissection; one that knows not the Terms used by Learned Authors in those very Subjects which he undertakes to treat of, neither the Chymists where his greatest pretence is, nor others? (*vide* what has been said on both sides concerning a Waters imbibing a Mineral or Metal) nay himself tramples upon them with pride and disdain (P. 207.) *How cumbersome to the Memory* (says he) *are the very Terms of Art?* — and again, *sufficiently troublesome, and sometimes put it upon the Rack too.* I say if these helps that do so directly refer to the Practice of Physick, come so short to qualifie a young

young man, that still neglects not his study of good Authors in a right Method, whether will the sole making up of Experiments in the analysing of the parts of a few Metals and Minerals, furnish a young man with better qualification? I refer it to the Judicious to judge.

Besides it has been my fortune to be very much acquainted with several young Gentlemen that have travailed, and returned from Forrein Universities, who have been very well fitted for the Practical part, and yet have been modest; while some others, not worthy to carry their Books, have been as *bold as Blind Bayard*.

(P. 207.) *How do young Students* (says *He* travails upon the Universities, and the Arts.) *trifle a great part of their time away at Universities, in the frothy Study of Logicks, Ethicks, Physicks, and Metaphysicks? O impudence in the Abstract!*

*Aude aliquid brevibus Gyris & CAR-
CERE DIGNUM,
Si vis esse aliquis. —*

Does he expect to climb by trampling on the Universities, How

How this will stand with his University Oath of Matriculation, and when he commenced Batchelor of Arts, I appeal to his own Conscience: What! thus to throw dirt in the Face of the *Universities*, and to arraign all the Learned Men in the World, and their Studies before his Tribunal. How could I ever expect to escape his supercilious Censure, whose pride is such, that the *most famous Universities* in the World must be thus judged. We have found *Sir Simpson* severely ranting against both the Ancient Princes, and Modern Writers in Physick; and spurning against the most Learned Discourses that are written upon any the most useful Subject in the Faculty, and here he sawcily censures the *most famous Universities*, and tramples upon all Arts and Sciences. A man would wonder that ever such Pamphlets as this should passe the Press, and that none should crush such Cockatrice Eggs before they were hatched. It appears this man can find nothing to study but himself, nor to pore upon but his Laboratory.

Is not he likely at length to prove a hopeful Chick, learning to crow like the old Cock? I find *Paracelsus* in his Preface to his *Fragmenta Medica*, bragging that for the space of ten years, he had never read so much as one Book. And in his Preface to *Paragranum*, he impudently professes, that a hair of his head knew more than all the Writers in the World, and that the Rings of his Shooes were more learned than either *Galen* or *Avicen*. *Et barba mea* (inquit) *experientie majoris est quam Academia vestra anni versa*, viz My Beard (says he) is of greater Experience than all your Universities. And this our Author we find comes not far behind his Master (though perhaps he never read these things in him) being both big with the like Tympany.

Sir Simpsen must pardon me, if for the love I bear to Learning, and the honour I have for the *Universities*, I admonish him of these things. I remember I have read of a Law among the *Lacedemonians* and *Thurians*, which was this; *Qui juvenem quempiam aliquid indecori patrare vidisset, nec quasi Filium pro-*

*A Pardon
asked.*

proprium redarguisset, emendassetque, tanquam Malus & Degener Civis multabatur. viz. He that shall see a young man do something that is unbecomming, and shall not reprove him, and endeavour to amend him, as if he were his own Son, should be punished as an evil and degenerate Citizen. And certainly nothing is more unbecomming a Scholar, than thus to flie in the face of all Learning.

But here he seems to have some plea for himself, in crying out against the Study of Ethicks, affirming that, *They consult more the Sayings and Moralities of the Heathen, than the Life of Christ and Christians.* — I am assured this is a false Charge with many, nor does the study of the Arts hinder the Profession of Religion in the least, but the one is rather a Handmaid to the other. And therefore we see that when our Saviour sent forth the Apostles, who were Fishermen, and probably illiterate, he first qualified them with all manner of Learning, whereby they had the Gift of Tongues, and were also able to dispute against all Gain-sayers.

I do heartily wish, that notwithstanding this pretence of Mr. S. here concerning the life of Christ and Christians, that whatever his judgement may be in other matters, he take care that he do not follow *Paracelsus* in Religion. For I find the famous *Bullinger* testifying that he often went to discourse with him, and to try what Religion he was of. *Contuli* (sayes he) *cum eo semel atque iterum de rebus variis, etiam Theologicis, & Religionis, &c.* But he says he could never discern any thing of piety in him from any of his Speeches; but that he pretended to Magick, &c. — *Raro aut nunquam ingrediebatur catus sacros, & visus est Deum & res divinas leviter curare, &c.* To wit, He seldome or never went to Church, or the Publick Congregations, and seemed slightly to regard God and his Ordinances; and this Testimony is confirmed (with a great deal more) under the hands of *Oporinus*, who had served him two years, and *Erastus* a Learned Physician in Germany. And yet I find *Paracelsus* in some of his Books like Mr. S. pretending to treat of Religion. This

Caution

*A Caution
on giveg*

Caution out of Christian Love, I do on this occasion give to Mr. *Simpson*, which I wish he may take kindly and follow, whatever he does in the rest.

(P. 208.) *How uncertain* (says he) *are Physicians in their Diagnosticks of Diseases.* — I confess again they are not *infallible* in this point, yet not so *uncertain* as he pretends, if they be such as are well studied in the Art. But what then? because there is a possibility that in some difficult Cases they may erre, must they therefore wilfully close with error, and through abandoning of Study embrace affected ignorance?

To be deeply versed in the knowledge of Diagnosticks of Diseases of all good and bad Symptoms reckoned by Galen and Hippocrates, &c. only inable a man to be confident, and thereby to commit folly, by being too positive in the determination of life and death.

And were it not easie for Mr. S. if he would but look in a Glass, to spie one that is not so versed, that can be confident enough? What means all this severe taxation of other men, and things that de-

deserve it not, but a plain demonstration of superlative confidence and folly. — But if Physicians be confident in judging of the Nature of the Disease, and thus be grounded upon Reason, judging as men from the sign to the thing signified, and from the Cause to the Effect, who can charge them with folly?

(P. 209.) *Here he taxes some that out of encouragement of confidence of their skill in Prognosticks, use to promise to their Patients and themselves a recovery out of the Disease, with words of Encouragement, &c.* Now this being matter of fact, is not to be disputed if he have any Credit. In this particular we must distinguish concerning Diseases: Some are *Salutares*, which have *Three* no manner of danger in them; here a *sorts of* Physician may appear confident, and *Diseases.* make encouraging Prognosticks. *Secondly*, there are some that are *Ancipites*; viz. of a doubtful nature, which sometimes admit of a Cure, and sometimes not. If a Physician do understand well the Nature of the Disease and the Constitution of the Patient, he may be well able to predict what the event shall be;

and if he have good ground to hope well, certainly he ought to keep the Patient from too much fear and despondency, which in timorous spirited people would kill sooner than the Disease; especially in such as are Hypochondriack: yet in these great wisdom is to be used, that while he thinks fit to encourage his Patient, he still take care to act rationally and vigorously, for the correcting of that part from whence the danger most arises; and yet for the saving of his own reputation, that he discover to some wise and prudent Friend of the Patient, wherein his ground of fear does lie. A third sort there are, which we call *Lethales*, which either in their own Nature, or according to the Circumstances of *hic & nunc* will become mortal: Here let a Physician take heed how he gives any encouragement either to the Patient or his Friends, lest he suffer in his reputation; as if he should not apprehend the danger, and so fail in his Prognosticks.

Besides, when a man must certainly die, he had need to know what he is to do, since upon that scantling of time de-

depends *ETERNITY*. Now in this point of Prognosticks, every man is his own best Judge, what ground he has to predict Life or Death; and others ought not too severely to censure; while in doubtful Cases, if he see room for Action, he rather trusts God and wise men with his reputation in speaking cheerfully, than in hazarding the speedy ruin of the Patient, by throwing him under despondency.

Have not we known some Chymists often promise a Cure within a fortnight; when either the Patient has died within that time, or become irrecoverable, and a Galenist or two perhaps have been sent for; when it has been too late? This my Brethren can witness with me, and many in this City know it full well.

(P. 213.) *I could heartily wish says he* The Galenists would consult a more facile way of Practice, such as by the efficacy thereof might prove more delightful to themselves; and more grateful to the Patients. — Here I must confess some Pseudochymists have the advantage of the Galenists, for they make Physick to have little of

the Galenical way more difficult than the Chymical.

difficulty in it, while they wholly employ their time in the narrow compass of the Minerals and Metals, and read nothing of the Theoretical part, whereby they should be fitted for the due application of them for the cure of Diseases; and this is that which makes so many at this day fall into that way; to avoid the difficulties they should necessarily meet with all, in seeking out the grounds of a rational Method, which certainly requires more Learning and Judgement to understand it, than the other; from whence it is that even all our Modern Quacks in every corner of the Nation, do run into the other way. But Learned Men are not so contented, they desire and endeavour to break through all difficulties, not valuing their own Labour and Study to fit themselves for their Profession, being desirous to understand not only the virtues and preparation of Medicines, but also the Nature and Composition of Mans Body, which is the Subject of their Work, to which they are to be applied, and likewise the Natures and Differences of all Diseases. But since Mr. S. will be wish-

wishing, *I will wish too*, that he would become more modest, and not think better of himself than he has cause; that he would study to be quiet and do his own business; that he would be wise unto sobriety; that he would not bear false witness against his Neighbours; and that he would endeavour to be serviceable in his Countrey, by studying a sound way of Practice in his Profession.

Next he has a Project for the Improvement of Experimental Philosophy, in order to which (he says) *He thinks it would be necessary to lay aside our Books, excepting such as refer to the communication of Experiments.* I like well indeed the confirming of Notions by Experiments, where the Subject is capable of it, but that cannot be in all things. Certainly the World would soon run into Ignorance, if all Learning and Books were laid aside that did not communicate Experiments. But if that must be, I wish his Book may be first thrown aside as impertinent, and that this of mine may go with it to boot, for I would not have

them separated, indeed its pity they should be parted.

If after his preparation of some of these things he be yet to seek out their properties, it were better to try his Experiments upon himself than upon others, especially such as are sick, who need present relief, and ought not to be hazarded with making doubtful Experiments; since certainly they call him not for any such intent, nor can he merit thanks from the Patient, with whom he takes such a course.

(Pag. 217.) *He projects that some may be employed to make Observations of the efficacy of Simples, and others in their Laboratories may make Essences, Tinctures, Spirits, Extracts, Magisteries, &c. out of them, and may have liberty of making Experiments thereof on Sick Persons...*

My. S. his
Project
of making Ex-
periments
on sick
persons.

Really I am ashamed to find any man that pretends to the Art of Physick, to set so mean a rate upon the Bodies of Men, in this Age of the World, as to make Experiments upon such a Noble Subject. Who would be so mad as to let him make his Experiments upon him? It's to be feared

feared it has been too much his Practice already. Certainly the World is not now in its Infancy, nor the Art of Physick in its Childhood, now to learn to go; If this man had but read these profoundly learned Authors, Ancient or Modern, whom he so tramples upon, he might discern this Art to have attained to such a perfection, as scarce any other can pretend to. Not that I think it has reacht to such a pitch, as that it may not admit of augmentation; but certainly all is not to be expected from a Pseudo-Chymists Furnace and Laboratory.

But here he supposes that all the Vertues of Simple Specificks must lie in their volatile parts, which are to be extracted by vehement heat of Fire; wherein certainly he mistakes; the Essences, Spirits, Tinctures, &c. of various Simples being almost of the same nature, and partaking more of the Fire than of the Simples themselves, out of which they are taken; from whence it is that they are all extremely hot, and offer violence to the Stomach. So we see the Salts of several Plants are almost all the same,

The Vertues of Simples not always in their thin parts.

(while yet the Plants are of different Natures) yea and not differing much from such as are taken out of the Minerals or Metals. Now the Vertues of Vegetables consisting rather in their Natural Composition, than in any one part, I think they were (at least many of them) better left to Nature to extract their Specifick Properties, than tormented by the Fire; which (as I said before) makes them like a man under the Rack, utter that which was not thought of before, and become of that quality, which was not properly in them.

His pro-
ject for
an Uni-
versal
Character.

Next he makes a Digression, and discourses concerning an Universal Character, which he borrows from a very Reverend Person of our Nation, to whom in justice he ought to have left the Honour of his Project, and not thus impertinently have thrust his Sickle into his Harvest. But perhaps he has the like Opinion of himself, that another had that I have read of, who at Rome posted up his Papers upon the Gates of the *Vatican*, challenging all the learned men in the World to dispute *de omni Ente*: whom the

the ingenious Sir *Thomas Moor* once Lord Chancellor of *England*, being then there, did quickly confound with this Common Law Question. *Utrum Averia capta in Withernam sint replegiabilia.*

(Pag. 239.) He resumes his Subject, and inveighs against the Galenical Method and Medicines, extolling the Chymical Preparations, because first, he says, *They are less in bulk than the other, and therefore they are less offensive to the Patient.*—

Here again I declare I am no Enemy to Chymical Medicines, which I know to be well prepared, though they are not much the more to be valued, because they are little in bulk, unless also they be benigne in their operation; which oft times such as are given in small quantities are not, but extreamly violent. Thus a few Grains of *Colocynthis* will purge, and that violently too, yet not so safely as an Ounce of *Cassia* or *Manna*, &c. And so I might say of some Chymical Preparations, which though they might be given in a very small quantity, perhaps a few Grains, yet are not so safe as these I have mentioned, or Syrupe of *Damaske*
Roses,

Chymical
Medi-
cines no
better be-
cause lit-
tle in
bulk.

Roset, or an *Infusion of Sene*, &c. And therefore *Sennertus* (*Cap. de Chymia*) blames those Pseudo-Chymists; that in every (even the smallest) Diseases use to flie to their Medicines that are made out of Minerals or Metals, *Hec unum agunt*, (inquit) *ut in minima dosi Medicamenta Palato non ingrata exhibeant*; because (says he) they have a mind to make them the more grateful to the Palate in their small quantity: *quam vero illa interdum violenta & corpori noxia sint*, *parum sunt solliciti*. (That is) Little regarding how violent they are, and how hurtful to the body. To whom he applies that Rule, *Non solum jucunde, sed & tuto curandum*. We ought to cure not only with pleasant, but with safe Medicines.

Galenical Medicines are safe and also successful.

Another thing for which he commends the Chymical before the Galenical Medicines is, because they are less dangerous. — Here I verily suspect no man will believe him, so as I might very well spare my labour of a reply; especially if we consider the property of his own Medicines, which in this Book he has told us he uses, which are wholly made out of Minerals and Me-
tals.

rals, which he confesses (P. 180) have in them an Arsenical property. We say the Galenical are not at all dangerous, but as *Herophylus* says *Θαύρ' ἡλίου*, even the finger of God in the hand of an Artist. And in these our dayes they are much more safe and benigne than in the dayes of old; to wit, among the Ancients; we have our *Sene*, *Rubarb*, *Cassia*, *Alanna*, *Tamarinds*, &c. unknown to them, and far to be preferred for safety before their *Peplum*, *Colocynthis*, *Euphorbium*, *Scammony*, *Hellebore*, &c. which we lay almost wholly aside, unless in some peculiar Cases, when we would acuate our Medicines for a robust body. And therefore our Patients complain not of heat and corrosion, as we know they do from some mens Medicines. Our successes do crown our Endeavors, wherein we can appeal to our Countreymen. If from the nature of Diseases sometimes we are slow, yet we are sure, and are trusted accordingly. Our Patients relapse not from any violence or virulency in our Medicines, as I have proved concerning *Parasels*.

Yet

Mr. S.
severely
taxes his
Fellow-
Chymists.



Yet (he says) he vindicates not the confident boastings of some Quacking Pretenders to Chymistry, who presume to cure all Diseases with some secret Powder or Oyl, or the like, which when known is but a meer trifle, &c. while yet (he says) they vilifie all others that are more modest than themselves. — I must confess I wonder Mr. S. can talk at this rate against others of his Tribe, when amongst them all, none have discovered so much confident boasting, or immodesty in vilifying others, as he himself doth, and that against the most learned Physicians in the World; trampling upon both the Ancient and Modern Writers, and undervaluing all Arts and Sciences, and the University-Studies. Why may not they as well cure all Diseases by their Powders and Oyls, &c. as he by his Ternary; which when the World comes to know, may prove as very trifles as theirs? *Qui alterum inculcat ipsum se, &c.*

Some of
the young
Chymists
begin at
the wrong
end.

(Pag. 242.) Where the Galenists in their Dispensatories end, there the Chymical Physician begins. — Ay, that is the mischief, these young men begin at the wrong

wrong end ; when they should first study *Physiology* and *Pathology*, they are falling to make Medicines , and that before they understand either the Properties and Nature of Humane Bodies , or of the Diseases incident thereto.

Zwelfer whom he mentions to correct some things in the *Augustane Dispensatory*, is a most acute and ingenious Writer , and he carps at some things perhaps not without a cause, yet he rai's not at this rate ; he retains still the same matter of Phylick and forms of Medicaments that he found in that Dispensatory , as I made out before. If some others go to the like work , it will be as *Asinus ad Lynam* , and a meddling with what they understand not.

Another thing wherein he prefers the Chymical Medicines before the Galenical, is, because they are more purified from their Terrene Feculencies , for (says he) in Decoctions , Syrupes, Conserves, Electuaries, Lohochs , and other Shop-Preparations , there are but very small separations of the Terrestrial Fæces , little Depuration made ; &c. These things we met with before and answered. I wonder, whether if
Logick

Vegetables and Animals need not so much preparation as Minerals do.

Logick had been set at a better rate, it would not have freed us from all these frivolous *Tautologies*, and put us into a closer Method.— Certainly there is very great reason that Chymical Medicines, which are made out of the Minerals and Metals, should be much more purified from their Terrene Feculencies, than the other, for they need it. I have made it out from the Testimony of the best Chymical Authors (yea, and himself has confessed it) that most of them are poysonous, if they be not well depurated: whereas many of the Remedies which are used by the Galenists, need no more preparation than our Meat and Drink does. Now if any should out of dislike of the Terrestrial or gross part of our Food, set upon a design of separation of it from the Terrene Feculency (as he calls it) and think to live upon a Chymical Extract of Flesh, and Bread, and Beer, or Wine, or Ale, or some neat Defecated Spirit made out of these, or some pure Oyl, what would be the result of it, I suppose he might as well feed upon Needles. And the Case is not much different.

rent. The Galenists do enough in point of preparation, for most of our Medicines, as well as our Meat, at least I know no reason why they should be taught by him, the rest Nature by the Fermentation of the parts will supply; and this is evident even to every mans Observation. And therefore if in some of the forms of Medicines he speaks of, there is not much done in point of separation of the parts, it is because they do not need it.

Lastly, He prefers the Chymical (P. Chymical 244.) because they are more effectual in their Operation. By Chymical Medicines (he says) he does not mean such as every ordinary bragging Chymist exposes to sale, who are a reproach to the Art, — but such as are made by a skilful Artist. — How I beseech you shall we know a bragging Chymist who is a reproach to his Art, from a skilful Artist? I am willing to take him for an Artist, and yet I find him ever and anon bragging and boasting of his Medicines, and undervaluing others which are far more safe and successful.

and are
approved
of by the
Galenists

I know the Chymical Preparations made out of Minerals and Metals are exceedingly operative, and we often stand in need of such Tools, when we meet with stubborn Diseases in robust bodies; and therefore the Galenists do approve of them, and when they see cause use them (to wit) such as they know to be safe and prepared by a good Artift. Nor did ever the Art of Physick want strong and efficacious Medicines, such were those I mentioned before which were in ordinary use among the Ancients, viz. *Colocynthis*, *Peplium*, *Hellebore*, *Elaterium*, &c. That which we glory in, and our Patients find benefit by, is that in this Age we have more benigne Medicines, which operate without ill Symptomes; and now it appears Mr. S. condemns these, and flies again to such as are more violent than those of the Ancients, which we have in a good measure laid aside. Well, I suspect at length his Patients will experience, by the Operation of his Medicines a difference betwixt his and others, when they shall have given him leave to make his Experiments upon them

them, and so become competent Judges in this point betwixt him and me, and therefore to their decision I will for this time refer it.

But here is one thing more I may not pass over, that Mr. S. lets flie sharply against some *bragging Chymists* that *expose their Medicines to sale, and thereby are a reproach to the Art.* — If I understand him aright, he means such as do post up their Medicines upon the Gates or Corner Posts of the City to call in Customers, as the Quacks and Mountebanks use to do. — Could he ever think that this Book of his would not be read at *York*, where all men know that he himself exposed his *Annulet for the Plague* to sale, posting up his Bills on every Corner of the Streets; and may we not have as good reason to expect the same for the vending of his Ternary?

Thus I have closely traced Mr. *Simpson* through the greatest part of his Book, and have thoroughly sifted all his Arguments against my declared Principles of

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Scar-

Soarborough Sparrow, wherein I have discovered him plainly canting and recanting, which I have further established by evident demonstration. I have asserted the Terms which I used in my Book concerning a Springs imbibing of Minerals to be those of Art, used by the *very best Chymical Authors*, and agreeable to sound Reason. I have answered all his Objections against the Rational Practice of Physick, which he calls Galenical, and confirmed my assertions from the Practice of the most Learned Chymical Writers. I have manifested the Congruity that is betwixt the most learned on both sides, and made out the Minerals and Metals, together with the Animals and Vegetables to belong in common to the Art, and to be the matter of Physick; wherein both the Galenical and Chymical Physician are equally concerned; and do heartily desire that every man in the Faculty would endeavour what in him lies, that since they do *convenire in eodem tertio*, they may also *convenire inter se*, and that we may all joyn hand

hand in hand as there shall be occasion,
for the Peace and Honour of the Faculty,
and the health of our Friends that employ
us.

There are some other Digressions in *of his*
his Book concerning the Constitutive *Constitutive*
Principles of all Concretes, wherein he *Principles*
carps at the two Principles of *Helmont*, at *Principles of all*
the three of the *Ancient Chymists*, at the *Concretes*
four of the *Peripateticks*, and at the five
of *Dr. Willis*, resolving all into one (to
wit) *Water*. But since it may justly be
said of that Discourse as once of the
young *Prophets Axe*, *Master it was bor-*
rowed; I therefore matter not much
whether it *sink* or *swim*, since the Sub-
ject is not of such common concern, nor
yet relates to me; I refer the Reader to
Helmont, out of whom he fetches what
he says on that Subject.

When I consider what abundance of
Experiments borrowed from variety of
Authors, are patched up together, to
make up this Book of his, as also what a
company of impertinent Subjects that re-
late not at all one to another, nor to the

general scope of the Book, our Author has drawn in by the head and shoulders to make up this Composition, it makes me call to mind what I read in *Nepotus Marcellus* concerning an *Elogium* that old *Lucilius* that famous Roman Wit, gave to such an Author upon the like occasion, viz.

Sarcinator est summus, suis Centonem optime.

Con-



Concerning
The Original of Springs.

I Am now come to this Appendix concerning the Original of Springs, where he designs to confute what I have said in my Book of *Scarborough-Spa* concerning that Subject, wherein I have examined the variety of Opinions among both Ancient and Modern Philosophers: some ascribing it to the Sea, the Water whereof they will have conveyed by subterranean Channels to all the Springs at Land; and to that purpose they fancy the Sea to be higher than the Land, and consequently the Water to run *per declivem* in a Natural Motion, to any, even the highest Springs at Land. This I have

examined, and according to my Model have proved to be but a fancy, by several Arguments, from Page 55 to Page 76 of my Book of *Scarborough-Spaw*, (*Edition 2.*) too long here to be recited. But others that are for the Sea to be the Original of Springs, being with me unsatisfied with the former fancy of the Seas altitude above the Land, have their various opinions concerning the conveyance of the Water from the Sea to the Springs, as there I instance out of their Authors; the disagreement of whom among themselves, may well save me the labour of refutation.

Others there are that will have the Water conveyed from the Sea into some large Caverns that are in the Earth, and there by heat from Subterranean Fires kindled by *Naphtha* and *Bitumen*, will have Water resolved into Vapors, which ascending towards the Superficies of the Earth, are by a more remiss degree of heat condensed again into Water, and so make the Springs; which was the Opinion of *Empedocles*, as also *Seneca*, to which *Fallopius*, *Mr. Carpenter*, *Mr. Lydiat*,
and

and Dr. *French* adhere. This I have weighed according to my Cubit, and find it of no weight, from Page 77. to P. 89.

A second Opinion concerning the Original of Springs, is that of *Seneca* (*lib. 3. Nat. Quest. cap. 7.*) *vid.* by a transmutation of Earth into Water in the Caverns of the Earth; which since I discern it has not many Fautors, I waved as not needing Confutation: and so came to that of *Aristotle*, *vid.* that the Springs are generated from the transmutation of Air into Water in the Subterranean Caverns. This also I considered of and found invalid; from P. 89. to 93. being attended with inextricable difficulties and absurdities.

I then proceeded to consider of Rain and Snow being the Cause of the Springs, of which Opinion I found *Albertus Magnus* and *Georgius Agricola* to have been the most eminent Patrons, and to them I did with modesty joyn in my judgement. I have lately heard that *Lessius* has writ something upon this Argument, and also that learned Frenchman

Gassendus has newly set forth a peculiar Tractate in defence of it; but it has not been my hap. as yet to meet with either of them.

What grounds *Albertus* and *Agricola* had laid down for their asserting this Opinion I declared, together with various Objections against them made by learned men, who since have treated upon the Subject. To these I replied according to my talent, having not pretermitted the mention of any Argument, that seemed to have any thing of weight or reason in it, that ever I had met with in any Ancient or Modern Writers against the Opinion; which as I went along in answer to them, I backed with new Arguments of Demonstration of my own, grounded on Reason and Observations, both of my own and others, in our own Nation or abroad (from *Pag.* 93. to 110.) modestly submitting all to the judgement of the more learned and considerate. And truly I have had thanks from several very learned Gentlemen for that Discourse, who declared themselves to have become
Pro-

Profelytes to the Opinion upon my grounds.

But Mr. S. it appears, is not satisfied, and gives some Reasons against it, which being for their Substance no other, then what I have there mentioned to be objected by others, and have also replied to, (though he takes no notice of it) I judge needless to repeat here, but do rather refer both him and the Reader to what I have said there, this being swelled into a bigger Volume already than at first I intended.

Indeed he has a distinction of *Land-Springs* and *Quick-Springs* mentioned P. 286. which runs through all he has to say against the Opinion, granting that *Land-Springs* may proceed from Rain and Snow, but denying it as to the *Quick-Springs*, and yielding that the failing of Rain and Snow may be the cause of the drying up of the former, but not of the latter. — But is not this plainly the begging of the Question, while I have proved that there is no real difference in this distinction, but that they are both one, both in their Cause
and

and in the Quality of the Water? and that where there is never any Rain or Snow, as in *Egypt* and *Ombria*, there are no Springs; where there is little Rain, there are few Springs as in *Ethiopia* and *Arabia*, in so much as for many miles together there is not a Spring to be found (as Travellers tell us) to quench their thirst or their Camels. And in Countries where there uses to be great plenty of Rain, there are great plenty of Springs; yet if for some good space of time there be a failure of them, most of the Springs that ordinarily were not wont to fail, do dry up, as it happened in this Kingdome in the years 1654, 55, and 56. And when there is a total failure for many years together, as it happened to *Cyprus* in the dayes of *Constantine* for 36 years together, which I proved from Dr. *Heylin's* Cosmography; there they are wholly dried up, as there it fell out, so as the Inhabitants were forced to leave the place, and seek for a new Habitation elsewhere for want of Water.

Besides are not all sorts of Springs at Land, and so to be called *Land-Springs*? I see no difference save only in their Continuation, and I have sufficiently proved *that* to depend upon the Continuation of Rain and Snow, while being withdrawn in any proportion, the Springs fail accordingly, even such as all men thought to have been *Perennes*, or everlasting; which are those that he calls *Quick-Springs*.

Indeed as to that of the three dry years 1654, 55, 56, during which space we had very little Rain or Snow in *Yorkshire*, either in Winter or Summer, when I observed very many of our Springs upon the high Wolds were dried up, which in the memory of man had never failed before, so as they were forc'd to drive their Cattle many miles for Water: *This* (he says) *he enquired of the Countrey people, and they testified it was not so.* To this I answer, it is matter of fact, of which I was an Eye-witness, and I doubt not but my Affirmative will find Credit with the Ingenuous Men of the World, before those Countrey peoples negative, who
ci-

either might live in Low-grounds where the failing of the Springs was not so signal ; or possibly after so many years they may have forgotten.

But this I took the more notice of, because it was a Confirmation to me of this Opinion of the Original of Springs, with which I did abound ever since I was at the University, and considered that Point of Philosophy. All that Mr. S. replies to it (*P. 291.*) is, that those Springs that did so dry up, were not *Perennes*, or everlasting, or such as he calls *Quick-Springs*. Why ! I say so too, and that indeed there are no Springs so *Perennes*, but from the deficiency of Rain they will be dried up ; and many of those were such as in all the Story of the Wolds never failed before : and those that did yet flow, were so slow in their Streams ; as that the nearest Inhabitants began to be very scrupulous to supply their Neighbors, for fear they should lack for themselves.

But further, to return to my Argument I draw from Dr. *Heylin's* Story of *Cyprius*, I would know from Mr. S. whether

ther there were in *Cyprus* these two sorts of Springs according to his distinction or no? If not, then it was only the Quick-Springs that were awanting, and why should *Cyprus* alone be defective in such a necessary thing? If they were both there, then the Quick-Springs failed as well as the other, and so his distinction is invalid; the reason of all is, that they all came from the same Cause (to wit) the Rain, which failing totally for many years together, they were dried up; so as it necessarily follows that the Quick-Springs at *Cyprus* came from the Rain, and the like we may judge of all the Springs elsewhere.

But Mr. S. finding himself pinched with this Argument, has a very ready Answer, even almost the same that the Countrey-Parson used in the Pulpit in Confutation of *Bellarmino*, when he cried out *Bellarmino thou liest*. — For he calls in Question the Honour and Honesty of Reverend Dr. *Heylin*, saying (P. 301.) *That like as Historians use to do, he might probably take it upon trust*. And because he knows not how to evade the
force

force of the Argument, he denies the verity of the matter of fact, and cries out in these words, — *That an Island so near the Mediterranean Sea should want Rain, for 36 years together, would certainly put an ordinary credulity upon the Tenters, and stretch a Thomas beyond his ordinary pitch.* And thus Mr. S. has turned over his thumb two of my Arguments, viz. that of the three dry years mentioned last, and this of *Cyprus*, by denying the verity of the matters of fact; an easie way of Answer indeed.

As for *Doctor Heylin*, he did certainly take it upon trust, and so did Mr. *Purchas* in his *Pilgrimage* (Page 439.) and Mr. *Sandys* in his *Travails* (Edit. 3. P. 222.) who relate the same Story. And I pray what other means of knowledge have we of matters of fact done before our Times, but to take them upon trust of those that commit them down to us? And so I find did *Doctor Heylin* and the rest, for they have the substance of it (I guess) from *Mathens Quadus* his *Fasciculus Geographia*, and he seems to fetch it from *Boterns* (whom as yet I cannot meet

meet withal) *Quadus* his words are, *Boterus* istuc addit, *Constantini Imperatoris* tempore, *continuis septemdecim annis*, *nulla hic fuisse pluvia*, *unde deserta mansit Insula*, *donec D. Helena beneficio in Olympo Monte Templum edificaretur*, &c. *exinde pluvia redierant*, *ac habitari denno capit.* To wit, *Boterus* adds this, that about the time of *Constantine the Great*, for 17 years together here was no Rain at all, so as the Island was forsaken by the Inhabitants, till the time that *Helena* the Empress built a Church in Mount *Olympus*, &c. about which time the Rain returned, and it began again to be inhabited. *Mr. Sandys* and *Doctor Heylin* do agree in their mention of the number of 36 years, but out of whom they had it, I discern not, for they cite not their Author. But its all one to my purpose, the failure of the Rain made the Island uninhabitable for want of Water in their Rivers and Springs, and consequently, the Rain was the Proximal Cause of them.

I have other Arguments wherewith I did confirm this Opinion in my Book:

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As concerning one of the Fortunate Islands or Canaries called *Ombrion*, now *Fierro*, which I mention *P.* 98. of my Book, where it never rains, but the Inhabitants are supplied with Water by an admirable Providence of God, from a certain Tree that grows there plentifully, which distills from its leaves every Night an abundance of Water, enough to supply the Inhabitants and their Cattle with Water. *Ovetanns* and *Martyr* do both say there are no Springs in the Island, nor Rivers. But to this *Mr. S.* gives no return.

So when (*P.* 118.) I deduce an Argument from the full and perfect Agreement, that is in all Qualities perceptible to the Senses betwixt Rain and Spring-Water, so as its hard to distinguish the one from the other, *Mr. S.* takes no notice of it.

And when I mention there another from the exact Identity of the Water of those he calls *Quick-Springs*, and of that which flows out of the other, which he calls *Land-Springs*; and grants that they proceed wholly from Rain and Snow;

Snow ; which if they proceeded from several Causes , must probably differ in some respect : *He leaps over it* ; will you know the reason ? even because he could not answer it. And yet so dis-ingenuous is he (P. 301.) as to say, *That he had run through all that I had offered in order to the confirming of this opinion of Rain and Snow to be the Original of Springs , and probably if not demonstratively overturned the Opinion , together with my grounds , arguments and reasons.* It's apparent to many that have read his Book , that he had a wrathful design against me , which all along he has prosecuted with as much rancour as possibly he could , aiming at victory rather than verity , and particularly in this Dispute about the Springs ; while he has not the least ground of pretence that he has answered my Arguments wherein the force of the Opinion laid. Certainly no man that ever pretended to Learning or Reputation writ at this rate.

But while I was answering an Objection of *Seneca's* which he made against this Original ; I made a Concession that

there may be some transmutation of Air into Water in the Earth or above, from whence it comes that Churches become wet before Rain falls: I find Mr. S. extremely severe against me, *I wonder* (says he P. 299.) *the Doctors Philosophy in his Second Edition should not come out more matured than to adhere to this old and long since exploded transmutability of Elements.* In so much that he seems willing to hang the point in controversy upon that hinge. *So sure* (says he) *as the Aire is transmuted into Water*, which moistens the Stone Walls of Buildings, so sure is the Air in the Bowels of the Earth transmuted into Water, yea and so sure is the Original of Fountains from Rain and Snow Water. — Well! Let the cause go upon that, I desire no more, and then I am assured the learnedest men of the World will be of my Opinion about the Original of Springs.

Is not that Air which we breath in, and that Water which we drink under that Notion? Now its plain that some of that Air that we breath in (within a Church) will in a few hours be turned
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into Water upon the Walls and Floors before Rain, which being collected together may be drunk into the Stomach, and quench thirst. I know where it pinches Mr. S. I do not take this Air and Water to be pure Elements, for so we could not live in them; its enough that they are such as all the World call Air and Water, and these we see may be turned one into another, the grosser parts of Air into Water, and the purer parts of Water into Air.

I mentioned just now a Story out of *Ovetanus* concerning *Ombrion*, where there is a Tree from whose leaves every night doth distill an abundance of Water, to the supply of the Inhabitants for all uses; the like Story is told by *Pliny* (*lib. 6. cap. 32.*) and Mr. *Hawkins* in his second Voyage recorded by Mr. *Hackluyt* tells the like of some Trees in *Guiny*. Now I would gladly know of Mr. S. from whence that Water comes, if the Air be not turned into Water, unless he will have it to be a Miracle, and so a new Creation?

Again, I would ask Mr. S. whether he thinks *Fremundus* (or *Cardanus*, under-

flood a Point of Philosophy or no, as well as he, in whom I find an admirable Story (in *Meteor. lib. 5. cap. 2. art. 3.*) which he has from *Cardanus (de var. rerum lib. 8. cap. 44.) Anno 1481. Quædam Ægra in Italia* — In English thus, *A certain Maid of 18 years of age in Italy, did every day void 36 Pints or Pounds of Urine, while yet both in Meat and Drink she did not take in above 7; so as her Urine exceeded them both every day 29 Pounds: and thus she continued for the space of 60 dayes, during which time were collected 1740 Pounds of Urine more than the weight of all her Meat and Drink that she had taken; when yet the whole body of the Maid did scarce weigh 150 Pounds. It was demanded (saith my Authors) by Marlianus how it came to pass? It was answered, That the Air which was contained in the Arteries, was converted into a Watery Substance; and that being cast out, what more came in its place, was presently turned again into Water, and so was multiplied into that large proportion. This it appears to have been the sense of Cardane, Marlianus, and Fromundus, although it pleases not Mr. S.* I

I would also enquire of him whether he thinks Sir *Kenelm Digby* understood what he writ, in his Book of the Cure of Wounds by the Sympathetical Powder, where (P. 67. of his English Copy) he tells a stupendious Story of a Nunne at *Rome*, the truth whereof was confirm'd to him both from her own Relation and the attestation of *Petrus Servius*, who was Pope *Urbane* the 8th his Physician, and several other Doctors of Physick at *Rome*, that assured him of the truth of it. This Nunne by excessive Watching, Fasting, and Devotion, had so heated her Body, that she seemed to be all on fire; this heat and internal fire drawing the Air so powerfully (I use his own words) the Air did incorporate within her Body, as it uses in Salts of Tartar, and the Passages being all open, it got to those parts where there is most scrofsy, viz. the Bladder, and thence she rendred it in Water among her Urine, and that in an incredible quantity, for she voided during some Weeks more than 200 Pounds of Water every 24 hours.

Now as to the Salt of Tartar he had been treating of it in the fore-going Page,

that being exposed to the open Air, it *converts the Air into moisture* in almost an incredible proportion, to wit, a Pound of the Salt well calcined, will afford ten Pounds of good Oyl of Tartar, by drawing and incorporating with it the Circumjacent Air.

Now while so many learned Philosophers do satisfy themselves and the World, in so speaking concerning this Transmutation of Air into moisture, why should Mr. S. so severely carp at me for using the same forms of expression. I know well enough what he runs at. *Helmont* (according to whose Pipe I find him ever dancing) says it is a Vapor which is in the Air that is condensed into Water, and not the Air it self, to wit not the Element of Air that is turned into Water. But is it not more properly called Air which we breath in than Vapor? and it is that which we breath in which is turned into Water, to wit, the grosser parts of it for as to the pure Element of Air we have nothing to do with it in this Dispute) nor do any Philosophers or other wise men doubt in the least to call it *the Air*. Hence the several

ral Expressions in use among them concerning the 3 *Regions of the Air*; and the *Atmosphere of the Air*, &c. A Term used by himself in several places of this his Appendix about Springs, but he will not allow me to call it so. If this be not properly called *Air*, I do not know where we shall find it in the World, nor will Mr. S. ever be able to describe its *ubi* by Ocular Demonstration, nor yet *Helmont* whom he follows; For my own part I chuse rather to retain the wholesome Grounds and Terms of Philosophy now used for many Ages, than to fall into the new way of Canting in frothy words, much in use among some late Writers, especially such as go this way; who while they have no new matter, do yet coyn new terms to obscure truth, on purpose to amuse ignorant Readers, as if themselves had been Inventors.

If what now I have said be sufficient in the judgement of wise and learned men, to evince a possibility of the transmutation of *Air* into Water, then I need say no more as to Mr. S. in the proof of the Point in hand, concerning the Ori-

ginal of Springs from Rain and Snow. Nor has he any way to evade it, but by calling in Question the Credit of the Relators in matter of Fact, as he does with Dr. *Heylin*. And I must confess, were it not for the Credit of the Relator, and his plain and undeniable circumstances of evidence whereby he makes it out, a man would very much doubt of the verity of the last. But without all peradventure a Person of that Honour, Prudence, and Learning, would take care that he might not be imposed upon.

. As for the former Story of *Cardane* and *Fromundus* which is also rare, there is less ground of admiration, since something extraordinary (not much different) has been observed among our selves. I my self knew a Sergeant belonging to the Garrison at *Hull*, who in a *Diabete* did void above 6 Quarts (to wit) about 12 Pounds of Urine every 24 hours, for some weeks together, till all his musculous parts were dissolved into Urine (and he became a Skeleton) the measure whereof did far exceed the weight of his whole Body, and of his Meat and Drink, while yet he drank not 3 Pints of Drink in a day. But

But (P. 296.) Mr. S. tells us, *He meets with two great difficulties which he cannot get through, the solving of which (he says) will prove ominous to my Thesis: The first is, how the Rain Water shall sink into the Earth by empty Crevices or Clefts, and what is that which must bring the intermediate particles of Water, which fall betwixt one Crevice or Cleft and another into the distant Crevices? — Why where is the difficulty? Water is thin in substance and also a heavy body, and he grants the Crevices or Clefts are empty, what then should hinder its sinking? Nothing in the World is more plain than that it does so. But it seems by what he says (P. 297.) that he would have been pleased if I had otherwise expressed it: Supposing the Earth to imbibe Rain Water as a Sponge, where it meeting with capillary Veins or small Pores, not Clefts or Crevices, which (he says) are scarce to be found but among Rocks, sinks down by degrees into larger Veins, and those into Subterranean Channels, where it makes Springs; and this he acknowledges would have been truly said. — Well if this be true in his*
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Judgement, then Mr. S. has given up his cause, while he is starting a difficulty. Only his distinction of *Land-Springs* and *Quick-Springs* saves him, for he grants the former, but is not satisfied in the latter. But I wonder Mr. S. should observe no better what he is doing, than to tax me for not saying so, when in effect he says nothing but my own words in the 94th Page of my Book; where treating of the Sinking of Rain and Snow Water into the Earth, I express it thus, — It sinks down by secret passages into the Earth, with which the Superficies doth abound (which are like unto the small fibres of Veins not discernable by the Eye, terminating in the Skin in all the parts of our Bodies) and in rocky ground it sinks through the Clefts, and by them is conveyed to the Subterranean Channels more or less deep in the Earth, where it is concocted by the Earth, and moves as Blood in the Veins.

Now this I having said, and he owning it to be truly said, the difficulty is vanished, and it becomes an Argument of demonstration for the proof of my Opinion.

pinion. I wonder either at his dissimilarity in denying me to have said so, or at his inadvertency in not observing that, which in his own Opinion has so much of truth in it, and is so material to the point in controversy. But this proceeds (I suppose) from his Combination with others in this Work, while one takes one piece in hand, and a second another, and in the meantime he that undertook to make his inferences, did not well discern the state of the Question.

The next difficulty which (*Pag. 297.*) (he says) is most considerable, is, *How the Rain Water sinking into the Earth should supply the Springs that are in Hills or high Heaths?* — To this I reply, That as 'tis very rare to find Springs upon the tops of Hills, so where ever they are, they are very penurious Springs, affording but little Water, and break out ordinarily upon the dependant sides of the Hills, which they may very well receive from the Rain and Snow that falls above them, upon the tops of the Hills, which may settle to that dependant part; these not suffering
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such expence of Water from Men or Beasts, and being supplied by every Shower, and not so much scorched by the heat of the Sun, as lower grounds are, may very well be supposed to be so caused and perpetuated. Besides that Hills are usually even in the dryest seasons kept moist by Clouds and Mists that do encompass them, as upon my own Observation I can speak of some Hills that have Springs in them. And if it be thus with those Springs that break out upon the Hills, much more plain is it in them that break out upon Heaths, where the ground being level, they receive the Rain and Snow more plentifully, and afford Springs accordingly.

Besides we see that Water is of it self apt to motion, for being poured out, it doth immediately spread it self (which it is well fitted to do by reason of its fluidity) and much more it is prone to motion in the Bowels of the Earth, where it loses much of its gravity, being out of its proper place, assigned to it by the Creator; *viz.* the Convex part of the Earth to which it has a natural inclination and tendency, not resting till it meets with

with its natural Correspondent the Air, under which it must needs lie, by reason of its greater gravity, as above the Earth, by reason of its levity, Hence it is (as I conceive) that it ceases not to move towards the Superficies of the Earth, so long as the Channels have a supply of Water; nor is there any difference of site to it, as to up or down, while it is in its Channels (like the Blood in the Veins of our Bodies) but it breaks out where ever it finds vent, and so makes Springs; and that so forcibly too, as that it brings out with it the *Sabulum* or Sand, which is a far heavier body than it self: from whence we see that the bottoms of Rivers are covered with it.

And this agrees with what *Helmont* says P. 47. in contemplation whereof he seems to be rapt up into an admiration, and breaks forth into a high *Doxology*. *Aqua* (inquit) *intra vividum terra fundum sorbetur, & trahitur, unde communem nasci vitam* (*Regem cui omnia vivunt, venite adoremus!*) *locorum situs nescit, cacumina montium sine molestia facile adscendit, una cum Quellem, ut indefinenter*

definentes inde fontes evertat. viz. Water is sucked and drawn into the Vivid Bowels of the Earth, whence it being made partaker of common life (Come, says he, let us praise God to whom all things do live) it knows no site of place, but naturally and easily ascends even to the tops of mountains, together with the Sand (which he calls *Quellem*) and so makes ever-running Springs. Thus I have solved these 2 great difficulties, in order to the establishing my assertion concerning Rain & Snow Water being the Original of Springs.

But will not the Reader wonder if I point out my Adversary himself granting me the facility of Waters rising up from the Subterranean Channels to the highest Hills or Heaths? Turn then to Page 305. where we find these words, *We see that Blood while circulating in its proper Vessels, knows no such difference as either going up and down, &c. In like manner Water while circulating from Seas, &c. knows neither up nor down, and can as easily (while in those Channels) climb up to the tops of Hills and Mountains, and there make Springs, as break forth in Valleys and in the*
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Level of Plains ; yea it can as well mount tops of Hills and high Heaths, as the Blood in the Arteries can ascend into the Head ; and all this (saith he by the Natural Circulation of Water, set on work by the Original Fiat.— So that upon the whole matter we see Mr. S. is not invincible in his Objections, nor yet so fully resolved in this point, but that he can change his mind upon a sleight cause, and even as his interest carries him assert Contradictions.

I shall now proceed to examine what he has to say concerning the Establishing of another Original of Springs, wherein (as in all things else that he has treated of) I find him very Positive ; for so in (P. 303.) he calls it a *new and positive Thesis ; and that is from a Circulation of Water in the Terraqueous Globe, by the mediation of Subterranean Channels along the Sabulum Bulliens, from the Sea to the Heads of Springs, and from them into Rivulets, and thence into Rivers, and so back again into the Ocean ; thereby making the Sea to be the Original of Springs.* — Thus far it is no new Thesis, but as old as *Thales* and *Plato*, and is followed by

by *Valesius*, Mr. *Lydiat*, Mr. *Carpenter*, Dr. *Jordan*, and Dr. *French*. What Reasons they have propounded in their Writings to perswade them to this Opinion, I have examined in my Book of the *Spaw* from P. 55. to 89. but could not receive satisfaction from them on the grounds I there laid down; besides the great disagreement among themselves in seeking out a passage to the Springs.

And for the making out of this Positive Thesis, Mr. S. makes an *Hypothesis*, in *Pag.* 317. which certainly is not a sufficient foundation in the Judgement of wise and rational men; viz. *He supposes, That the Seas are perforated at the bottom in many places, with Subterranean Channels and secret Vortices, through which the Water of the Sea finds passage; into certain Hydrophylacia or common Cisterns of Water; where it comes to a Level with the Surface of the Sea; and from the pressure of the Atmosphere of the Air, and also of the Winds, Clouds, and Storms, and the oblique Motion of the Tides upon the Surface of the Sea, the Water is forced up from those Cisterns even to the highest Hills or Plains, and so makes Springs.* Here

Here is much said, but nothing proved: Indeed a Grand *Supposition* (for so he calls it) which he ought necessarily to have proved, before he had given his Definitive Sentence against my Thesis, lest he be to seek for a true Original of his Springs. And yet to speak out, *neither is this his own*, but wholly borrowed from Kircherus de *Origine Fontium* in his *Mundus Subterraneus*, where he discourses at large upon this Subject, making no less than five Suppositions, in order to his Design of illustrating the Sea to be the Original of Springs, although he differs from others about the manner of Conveyance; which with submission to better Judgements) seem to me to be no other than the begging of the Question; affording very little satisfaction to any man that shall well study the Point.

But to return to Mr. S. He supposes that the Seas are perforated at the bottom, or to have holes through which the Water runs into Subterranean Channels (or as Kircherus calls them Rivers, which he fancies to be far larger than those we have above the Earth.) — But how knows he this to be

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so, since no man ever saw them? *De non apparentibus & non-existentibus eadem est ratio*, is a good Rule in Reason. I cannot believe there are such holes, because they do not appear to the eye of Reason.

In our *Lincolnshire* and *Norfolk Washes*, where at every Low Water or Ebbe of the Sea, the Water goes out, and leaves the Land bare for many miles together, no such holes were ever seen; nor on the Coast of *Holland*, where the Seas are very shallow at Low Water for some leagues together, is there the least Symbole of these holes, which probably should be if any such thing were in Nature, and so ordinary as is implied in this *Hypothesis*.

I speak not here of those *Extraordinary Subterranean Gulphs* which some Author tell of, and our Seamen confirm to us, as that on the Coast of *Norway*, called the *Malsfrondt*, and another at the bottom of the *Baltick Sea*; where the Water runs with a mighty stream into the Earth, by which some ships (they say) have been swallowed up; nor yet of the Subterranean Passages that are supposed to be betwixt some Seas in *Asia*, which

Hydrologia Chymica.

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I mentioned in my Book of the *Spaw*.

Again, If the Seas were so perforated, and that the Water should pass so plentifully through the Holes, as it must necessarily do, to give being to so many Springs, there would be found Suctions in the Sea, whereby Ships (especially small Vessels) would be in constant hazard; which we hear not of.

Moreover it seems to be *repugnant to Reason*, and our *Observations at Land*; for the motion of the Sea in the Constant Circulation of the Tides, and also from Wind and Storms, would be in danger to stop up the Holes, by washing Earth into them, and so choak up the Channels and consequently the Springs: As we see in the Roads, where sometimes we meet with dangerous Holes in the Latches; if there happen a Spout of Rain, so that the Water run in a stream but a day or two over those Latches, the holes are closed up and they become passible and firm.

Another Branch of Mr. S. his Supposition is this, *That there are Subterraneal Channels (or Rivers as Kircherus has it) whereby the Salt Water is conveyed to the*

Hydrophylacia , or *Cisterns* , &c. — This I cannot in his Sense grant , because they appear not : For never did any that dig in Mines either near the Sea , as at *Newcastle* and *Sunderland* , in the Coal-Pits ; or farther off at Land , as in the Lead , Iron , or Tin-Mines , make any reports of Streams of Salt Water that they meet withal , which they should probably do , if this *Hypothesis* were true. They tell us indeed of swift Currents of Fresh Water that sometimes they meet with , but not a word of Salt.

Again , Those Subterranean Channels must be supposed to be sometimes 2 or 300 miles long , even in a right line , nay perhaps so many thousand in great Continents , where the middle parts of the Land are at that distance from the Sea , and have their durable Springs ; and how many hundred or thousand miles long must we suppose them to be , if these Channels have such crooked turnings and windings , as the small Rivolets have that we observe at land ? I confess this surpasses my understanding how it can be.

Moreover , This supposes multitudes of his

his *Hydrophylacia* or Cisterns of Salt Water in every Countrey, and those of an immense Magnitude, which as yet never any man found, and is (in my weak Judgement) repugnant to Reason, for the Earth and Sea compressing on all sides of this Terrestrial Globe, should make it a Solid Body, and such as cannot admit of such large *Chasmata* or Vacuities.

Furthermore, Mr. S. supposes *This Water is forced up through those long Channels, and from the Hydrophylacia to the Springs, by the weight of the Air, Clouds, Winds, Storms, and Tydes depressing upon the Surface of the Sea.* — That the Air has a weight and may depress a little upon the Sea I shall not question; the *Toricellian Experiment* evinces the Air to depress by its gravity, yet how the Winds, Storms, and Tides should further that Depression I see not, but that their motion being oblique, should rather hinder it; forasmuch as it interrupts the motion of gravity, which is evermore in a right line towards the Center. But how it is possible that this depression of all these upon the Sea should hold so strong
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(which yet we discern is very inconsiderable) as to force the Water through those Subterranean Channels so many scores, hundreds, or thousands of miles long, and that by such Crooked *Meanders* as we have reason to suspect, I cannot conceive.

Indeed *Mr. S.* (P. 318) tells of a *Pneumatick Engine* like the *Wine-Coopers Bellows*, which will by the pressure of the Air force up Wine or Water into other Vessels, that are at distance and on higher grounds, and he supposes that after the same manner the pressure of these upon the Sea, forces the Water through the Channels to the Springs on Hills or Heaths at distance. He has also 2 or 3 more Schemes, whereby he endeavours to make out the facility of the conveyance, but both the other, and these are all fetched out of *Kircherus* in his *Mundus Subterraneus*, where P. 230 and 231: the Reader may see them all.

To these I shall say, they are only such in *Mence Machinantis*, but here is no proof to make them out to be so in *Mundi Machina*.

But lastly, If the Springs should be supposed, notwithstanding all these difficulties
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and absurdities, to proceed from the Sea-Water, there would certainly appear some difference perceptible to the senses, betwixt that sort of Spring-Water, that comes from this cause, and those that assuredly (himself confessing) proceed from Rain, when yet we discern there is none at all. And how comes it to pass that those Springs (especially such as are near the Sea) have not after so many thousand years as the World has continued, somewhat of saltness in them, and that the Channels are not tainted after so long time? Indeed Mr. S. tells us that the Sea-Water lays down its saltness in the Channels of the Earth, and so the Water runs fresh out of the Springs. — But did he not also say (in P. 50.) *That the Salt of the Earth is conveyed through the Subterranean Channels into the Sea, and that thence it has its Saltness, and its Minera from Fossile Salt?* Now how the same Channels should convey Salt to the Sea, and also drain the Seas Water from its Salt, and become Conveyances of contrary Streams, I cannot reconcile to my Reason.

To conclude all, I find that this *new and positive Thesis* of Mr. Simpson is but a borrowed

rowed Hypothesis, and so far as he has here endeavored to make it out, to have no bottom : and therefore I must adhere to my Opinion of Rain and Snow Water to be the Original of Springs, which still farther I can defend with more Arguments of Demonstration ; but those I shall wave till I have further occasion.

I confess this is an abstruse point in Philosophy and difficult to determine upon ; But difficulty in finding should not discourage us from seeking , but rather whet us on to more diligence in searching ; so as whatever our Opinions are in things of this Nature , provided we assent or dissent according to reason, and with readiness to submit when our reason shall be convinced, we are out of all danger of Heresie, though perhaps we may be subject to error.

I had here thought to have entertained the Kind Reader with some Animadversions upon another (small) Book of Mr. Simpsons called Zenexon Antipestilentialle , where there are many things worth observing, and that may merit a Comment ; but this having far exceeded what at first I intended , I shall respite it till a further provocation, being also desirous to continue on the defensive band, and so at present I bid Farewel.

From my House at
York May the
28th. 1669.

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